



# *VoIP Singlewire-enabled V2 Push-to-Talk Speaker Operations Guide*

Part Number  
**011182**, RAL 9002, Gray White, Standard  
**011183**, RAL 9003, Signal White, Optional

Document Part #930463A  
for Firmware Version 2.0.5

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**VoIP Singlewire-enabled V2 Push-to-Talk Speaker Operations Guide 930463A**

**Part #**

**011182, RAL 9002, Gray White, Standard**

**011183, RAL 9003, Signal White, Optional**

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Email: [support@cyberdata.net](mailto:support@cyberdata.net)

Fax: (831) 373-4193

Company and product information is at [www.cyberdata.net](http://www.cyberdata.net).

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## Revision History

Revision 930463A, which corresponds to firmware version 2.0.5, is the first release and was released on April 9, 2012 .

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# Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
13. Prior to installation, consult local building and electrical code requirements.



GENERAL ALERT

## Warning

*Electrical Hazard:* This product should be installed by a licensed electrician according to all local electrical and building codes.





GENERAL ALERT

## Warning

*Electrical Hazard:* To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.

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## Pictorial Alert Icons

	<p>General Alert</p> <p><i>This pictorial alert indicates a potentially hazardous situation. This alert will be followed by a hazard level heading and more specific information about the hazard.</i></p>
	<p>Ground</p> <p><i>This pictorial alert indicates the Earth grounding connection point.</i></p>

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## Hazard Levels

**Danger:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This is limited to the most extreme situations.

**Warning:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**Caution:** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It may also alert users against unsafe practices.

**Notice:** Indicates a statement of company policy (that is, a safety policy or protection of property).

The safety guidelines for the equipment in this manual do not purport to address all the safety issues of the equipment. It is the responsibility of the user to establish appropriate safety, ergonomic, and health practices and determine the applicability of regulatory limitations prior to use. Potential safety hazards are identified in this manual through the use of words Danger, Warning, and Caution, the specific hazard type, and pictorial alert icons.

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## Abbreviations and Terms

Abbreviation or Term	Definition
A-law	A standard companding algorithm, used in European digital communications systems to optimize, i.e., modify, the dynamic range of an analog signal for digitizing.
AVP	Audio Video Profile
Cat 5	TIA/EIA-568-B Category 5
DHCP	Dynamic Host Configuration Protocol
LAN	Local Area Network
LED	Light Emitting Diode
Mbps	Megabytes per Second.
NTP	Network Time Protocol
PBX	Private Branch Exchange
PoE	Power over Ethernet (as per IEEE 802.3af standard)
RTP	Real-time Transport Protocol
RTFM	Reset Test Function Management
Talkback	Two-way communication enabled
TFTP	Trivial File Transfer Protocol
u-law	A companding algorithm, primarily used in the digital telecommunication
UC	Unified Communications
VoIP	Voice over Internet Protocol

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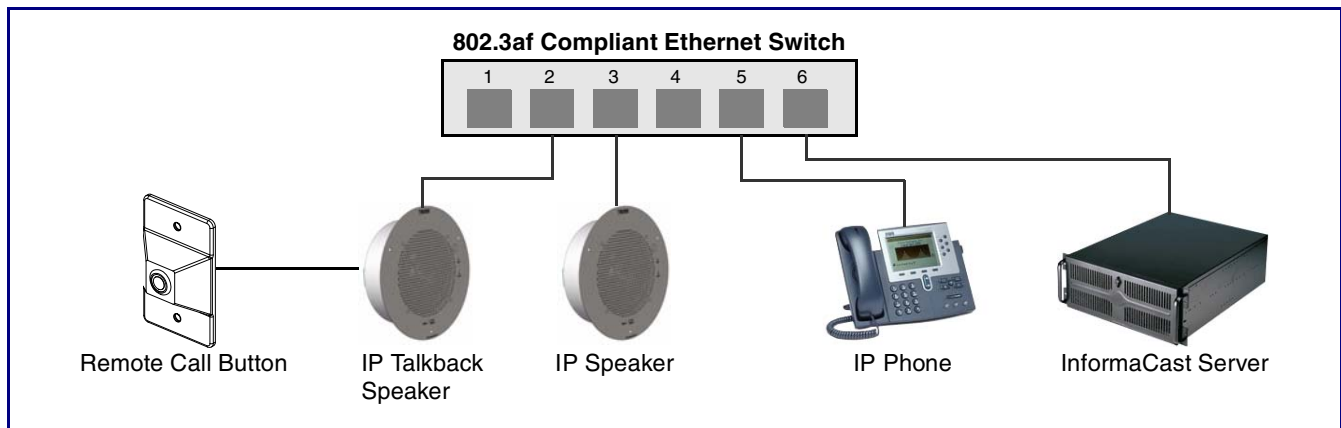
# 1 Product Overview

The CyberData Singlewire-enabled Push-to-Talk speaker enables two-way conversations using the Singlewire Push-to-Talk application running on the phone. The Singlewire-enabled Speaker easily connects into local area networks with a single CAT5/6 cable from your PoE switch. Its small footprint allows the speaker to be mounted almost anywhere with multiple mounting options available.

By use of the optional remote call button, calls to a predetermined extension can be initiated from the room with the speaker. During the active calls, the LED light on the switch can be programmed to blink to show call activity.

Figure 1-1 illustrates a typical configurations for the Singlewire-enabled Speaker.

**Figure 1-1. Typical Installation**



**Note** The version of InformaCast needs to be 4.0 or higher.

**Note** Prior to installation, create a plan for the locations of your speakers.



## General Alert

*Consult local building and electrical code requirements prior to installation.*

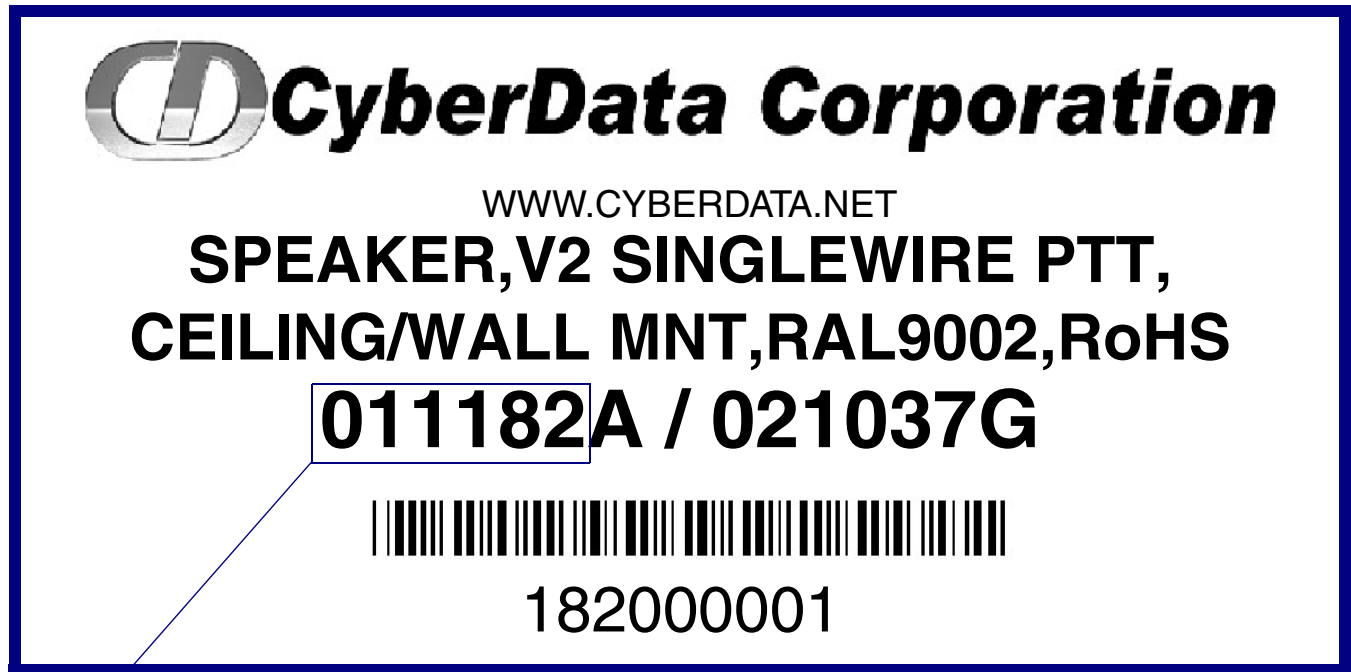


## 1.1 How to Identify This Product

To identify the VoIP Singlewire-enabled V2 Push-to-Talk Speaker, look for a model number label similar to the one shown in [Figure 1-2](#). The model number on the label should be one of the following:

- **011182**, RAL 9002, Gray White, Standard Color
- **011183**, RAL 9003, Signal White, Optional Color

**Figure 1-2. Model Number Label**

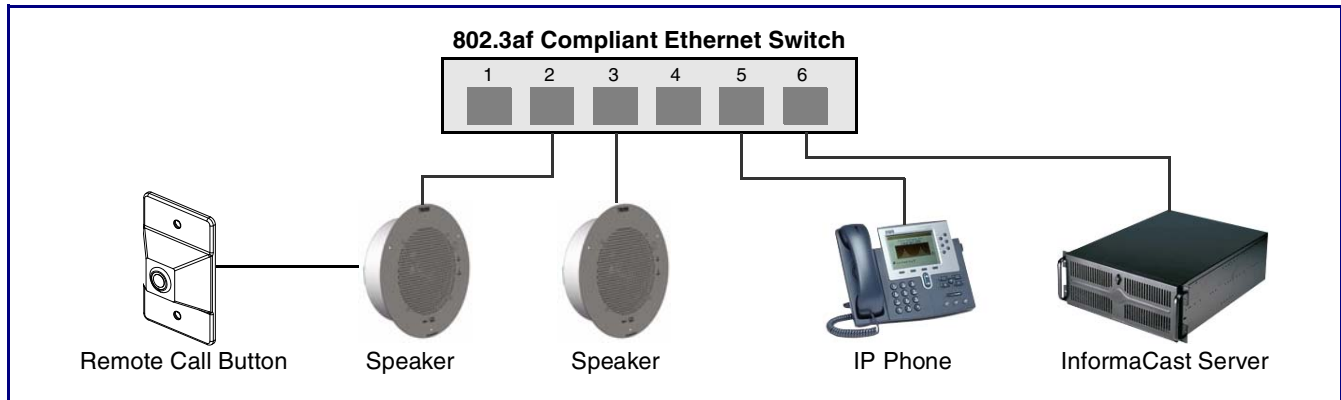


Model number

## 1.2 Installation

Figure 1-3 illustrates a typical configurations for the Singlewire-enabled Speaker.

**Figure 1-3. Typical Installation**



See the following sections for other installation options:

- [Section 2.2.1.3, "Running the Singlewire-enabled Speaker with Auxiliary Power"](#)
- [Section 2.2.2.1, "Singlewire-enabled Speaker with Remote Call Button"](#)
- [Section 2.2.2.2, "Singlewire-enabled Speaker with Extra Speaker Connection"](#)
- [Section 2.2.2.3, "Singlewire-enabled Speaker with Line Out"](#)

## 1.3 Product Features

- Push-to-Talk
- Informacast-controlled operation
- Web-based configuration
- Web-based firmware upgradeable
- Small footprint
- High efficiency speaker driver
- PoE 802.3af Enabled (Powered-over-Ethernet)
- Network and external speaker volume control
- Optional external call button and LED indicator

---

## 1.4 Supported Protocols

The Singlewire-enabled Speaker supports:

- Multicast
- DHCP Client  
Dynamically assigns IP addresses in addition to the option to use static addressing.
- InformaCast Version 4.0 and greater
- TFTP Client  
Facilitates Web-based firmware upgrades of the latest speaker capabilities.
- RTP
- Audio Encodings  
PCMU (G.711 mu-law)  
PCMA (G.711 A-law)  
Packet Time 20 ms

---

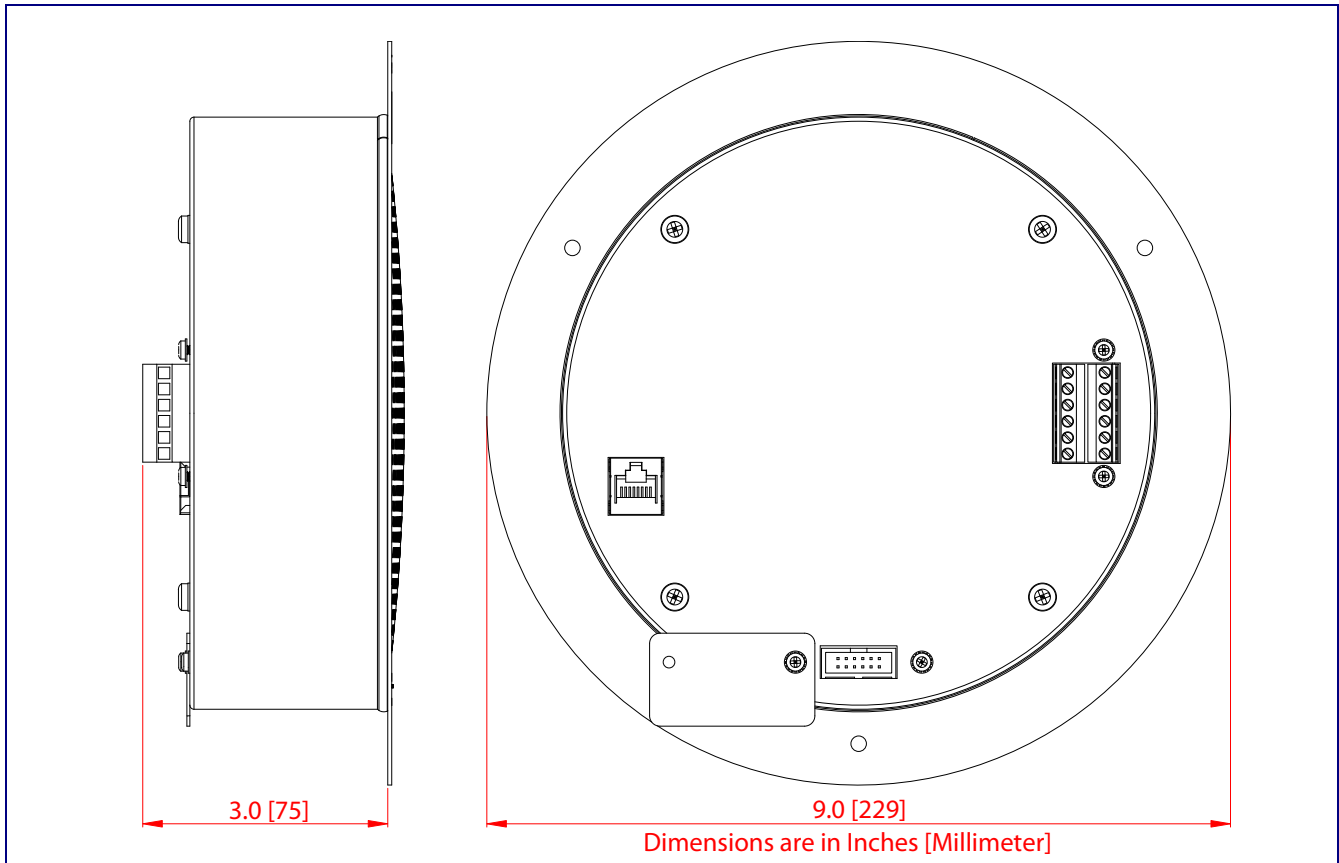
## 1.5 Product Specifications

Category	Specification
Sensitivity	96dB/1W/1M S.P. Level
Output	10 Watts Peak Power
Operating temperature	-30 to 55 C (-22 to 131 F)
Port baud rate	10/100 Mbps
Protocol	Singlewire InformaCast 4.0 and higher
Power Input	PoE 802.3af (as per IEEE 802.3af standard from a UL listed power source)
Payload types	G711, A-law and $\mu$ -law
Regulatory compliance	FCC Class B, CE
Warranty	2 years limited
Dimensions	9" x 2.4"
Weight	2.8 lbs./shipping weight of 3.8 lbs. (1.3 kg/shipping weight of 1.7 kg)
Part number	011182, RAL 9002, Gray White, Standard Color 011183, RAL 9003, Signal White, Optional Color

## 1.6 Dimensions

Figure 1-4 shows the dimensions for the Singlewire-enabled Speaker.

**Figure 1-4. Dimensions**



---

## 1.7 Starting a Push-to-Talk Session from an IP Phone (Summary)

**To start a push-to-talk session from an IP phone:**

1. Make sure that the Cisco environment is set it up with the **Intercom Service**.
2. On the Cisco IP phone, select the **Service** button.
3. Select the **Informacast Intercom Service**.
4. On the Cisco IP phone, dial the extension number for the Speaker that you want to call.
5. When the call from the Cisco IP phone to the Speaker is active, you can do one of the following:
  - Select the **Listen** button on the phone to listen to someone talking into the Speaker.
  - Select the **Talk** button on the phone to talk to someone listening to the Speaker.

**Note** The IP phone always controls the talking and listening feature of the Speaker.

6. Select the **Exit** button to terminate the call.

**Note** For a more detailed explanation of this procedure with pictures, see [Section 1.9, "Starting a Push-to-Talk Session from an IP Phone \(Detailed\)"](#).

---

## 1.8 Starting a Push-to-Talk Session from a Push-to-Talk Speaker (Summary)

**To start a push-to-talk session from a push-to-talk speaker:**

1. Make sure that the Cisco environment is set it up with the **Intercom Service**.
2. Press the Remote Call Button to make the Singlewire-enabled Speaker dial a pre-programmed IP phone extension.
3. When the call from the Singlewire-enabled Speaker to the Cisco IP phone is active, you can do one of the following:
  - Select the **Listen** button on the phone to listen to someone talking into the Speaker.
  - Select the **Talk** button on the phone to talk to someone listening to the Speaker.

**Note** The IP phone always controls the talking and listening feature of the Speaker.

4. Select the **Exit** button to terminate the call.

**Note** For a more detailed explanation of this procedure with pictures, see [Section 1.10, "Starting a Push-to-Talk Session from a Push-to-Talk Speaker \(Detailed\)"](#).

## 1.9 Starting a Push-to-Talk Session from an IP Phone (Detailed)

To start a Push-to-Talk Session from an IP Phone:

1. Press the **Services** button. In the Phone window, you will see the words **Informacast Intercom** listed under **Services**.
2. Press the button under the word **Select** in the phone window.

**Figure 2. Select the Informacast Intercom Service**



**Informacast Intercom service**

**Button under **Select** in the phone window**

**Services button**

3. When the words **Speaker Selection** and **Dial Code** appear in the phone window, use the keypad to enter the dial code for the preconfigured Push-to-Talk speaker that you want to call.
4. After entering the dial code, press the button under the word **Submit** in the phone window to call the speaker.

**Figure 3. Enter the Dial Code**

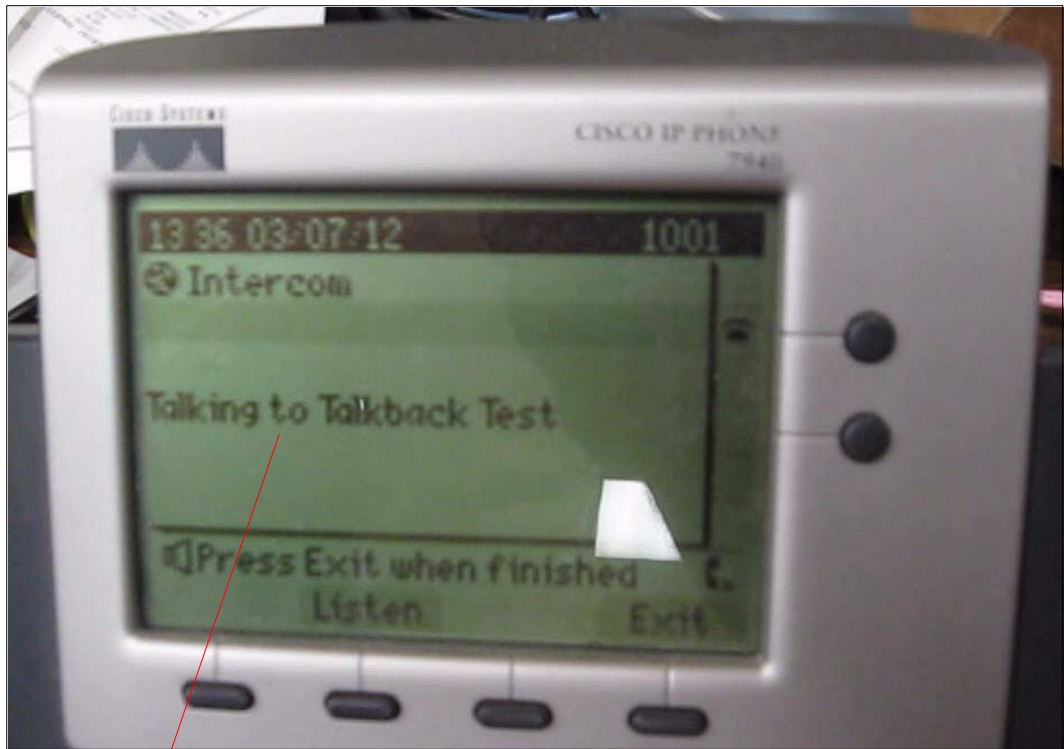


**Speaker Selection**

Button under **Select** in the phone window

5. When the words **Talking to “Speaker Name”** appear in the phone window, the speaker is in *Talking Mode*. A person at the speaker can begin talking to the phone.

**Figure 4. Talking Mode**



Talking to “Speaker Name”



6. If you want to switch the speaker to *Listening Mode*, the person at the phone must press the button under the word **Listen** that is in the phone window.

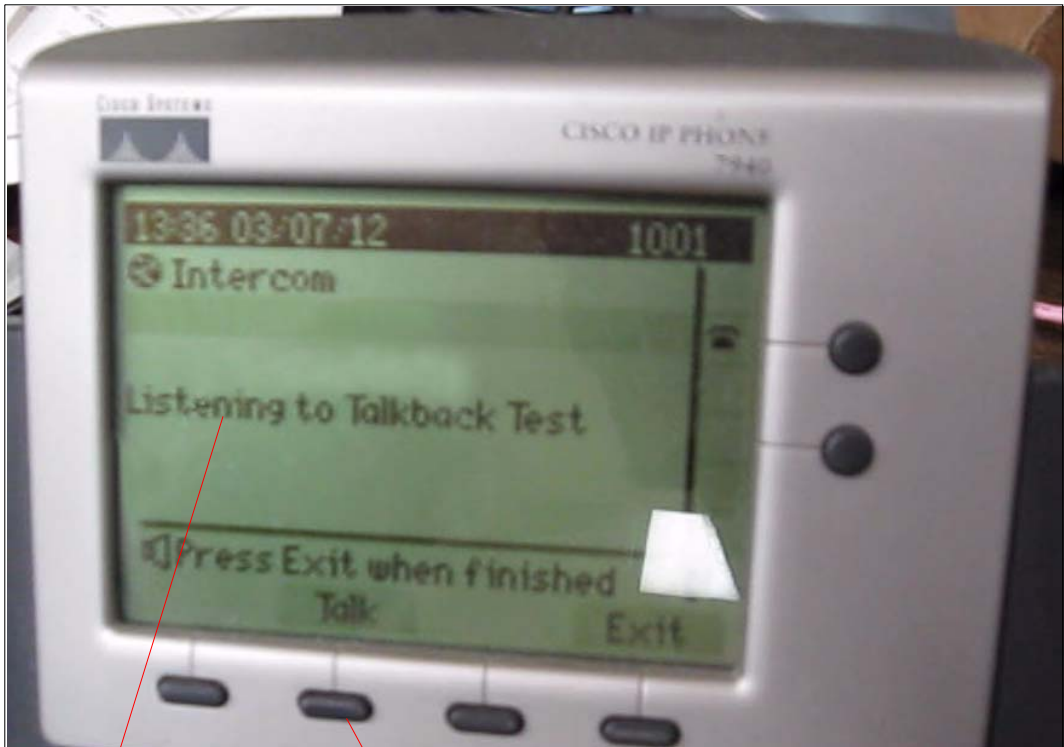
**Figure 5. Press the Listen Button to Switch to Listening Mode**



Button under **Listen** in the phone window

7. When the words **Listening to “Speaker Name”** appear in the phone window, the speaker is in *Listening Mode*. A person at the speaker can begin listening to someone talking through the phone.
8. If you want to switch the speaker back to *Talking Mode*, the person at the phone must press the button under the word **Talk** that is in the phone window.

**Figure 6. Listening Mode**



**Listening to “Speaker Name”** Button under **Talk** in the phone window

9. To end the call at any time, the person at the phone must press the button under the word **Exit** in the phone window.

**Figure 7. Press Exit to End to End the Call**



Button under **Exit** in the phone window

10. The person at the phone must then press the button under the word **Exit** in the phone window again to return to the **Home** screen.

**Figure 8. Press Exit Again to Return to the Home Screen**



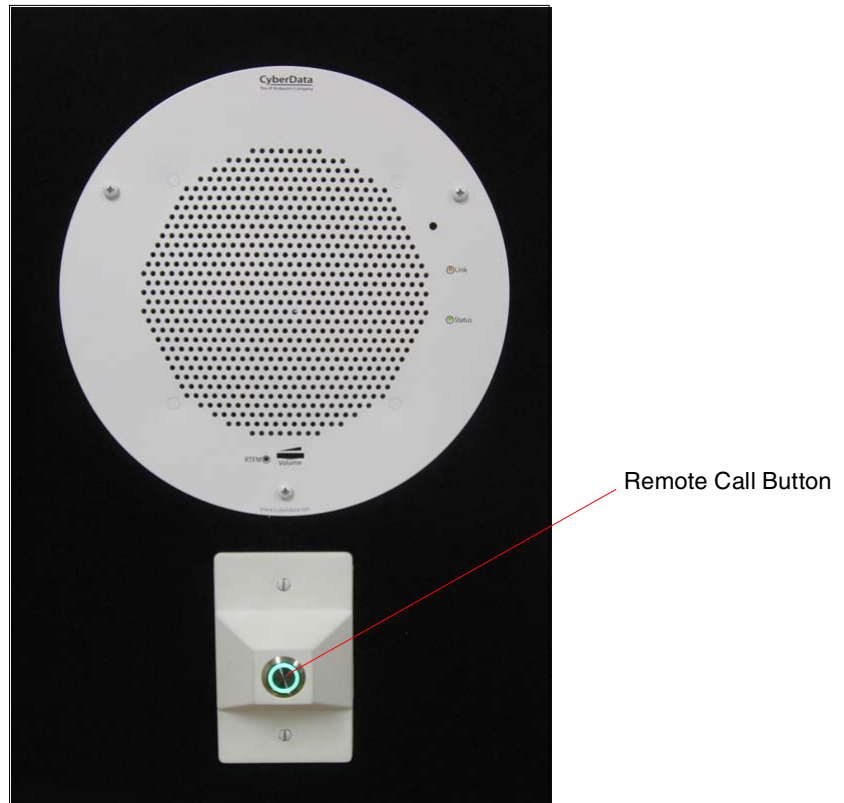
Button under **Exit** in the phone window

## 1.10 Starting a Push-to-Talk Session from a Push-to-Talk Speaker (Detailed)

**To start a Push-to-Talk Session from a Push-to-Talk Speaker:**

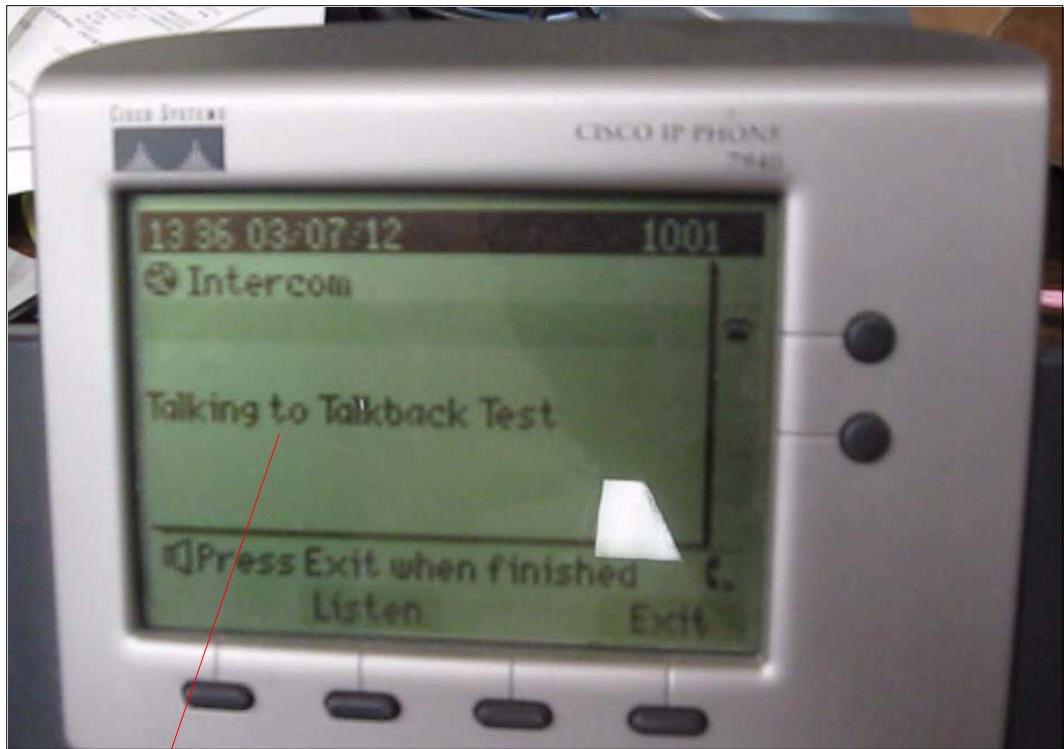
1. The person at the preconfigured Push-to-Talk speaker must press the Remote Call Button. The speaker will immediately call a specific IP phone.

**Figure 9. Press the Remote Call Button**



2. When the words **Talking to Talkback Test** appear in the phone window, the speaker is in *Talking Mode*. A person at the speaker can begin talking to the phone.

**Figure 10. Talking Mode**



**Talking to Talkback Test**



3. If you want to switch the speaker to *Listening Mode*, the person at the phone must press the button under the word **Listen** that is in the phone window.

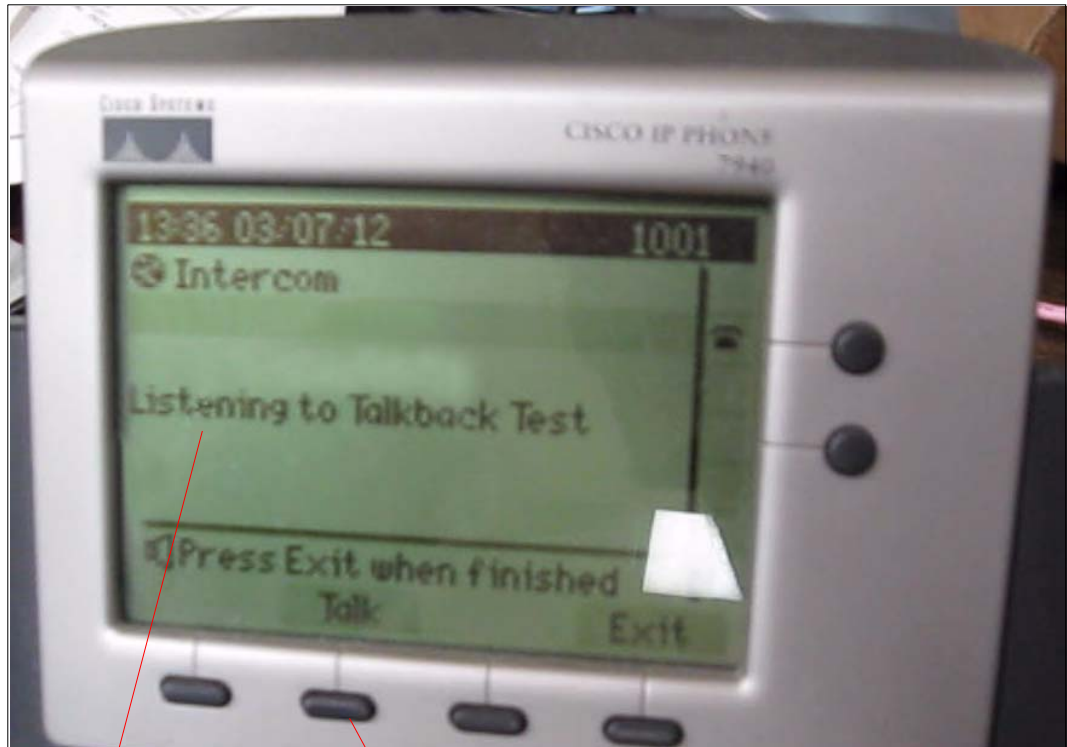
**Figure 11. Press the Listen Button to Switch to Listening Mode**



Button under **Listen** in the phone window

4. When the words **Listening to Talkback Test** appear in the phone window, the speaker is in *Listening Mode*. The person at the speaker can begin listening to someone talking through the phone.
5. If you want to switch the speaker back to *Talking Mode*, the person at the phone must press the button under the word **Talk** that is in the phone window.

**Figure 12. Listening Mode**



**Listening to Talkback Test**

**Button under **Talk** in the phone window**



6. To end the call at any time, the person at the phone must press the button under the word **Exit** in the phone window.

**Figure 13. Press Exit to End to End the Call**



Button under **Exit** in the phone window

7. The person at the phone must then press the button under the word **Exit** in the phone window again to return to the **Home** screen.

**Figure 14. Press Exit Again to Return to the Home Screen**



Button under **Exit** in the phone window

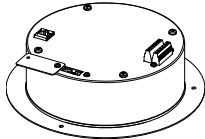


## 2 Installing the Singlewire-enabled Speaker

### 2.1 Parts List

[Table 2-1](#) illustrates the parts for each speaker and includes kits for the drop ceiling and drywall mounting.

**Note** The installation template for the Singlewire-enabled Speaker is located on the *Installation Quick Reference Guide* that is included in the packaging with each speaker.

**Table 2-1. Parts**

Quantity	Part Name	Illustration
1	Singlewire-enabled Speaker Assembly	
1	Installation Quick Reference Guide	
1	Speaker Mounting Accessory Kit (Part #070054A)	

## 2.2 Set Up and Test the Speaker

Set up and configure each speaker *before* you mount it.

CyberData delivers each speaker with the following factory default values:

**Table 2-2. Factory Network Default Settings—Default of Network**

Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address <sup>a</sup>	10.10.10.10
Web Access Username	admin
Web Access Password	admin
Subnet Mask <sup>a</sup>	255.0.0.0
Default Gateway <sup>a</sup>	10.0.0.1

a. Default if there is not a DHCP server present.

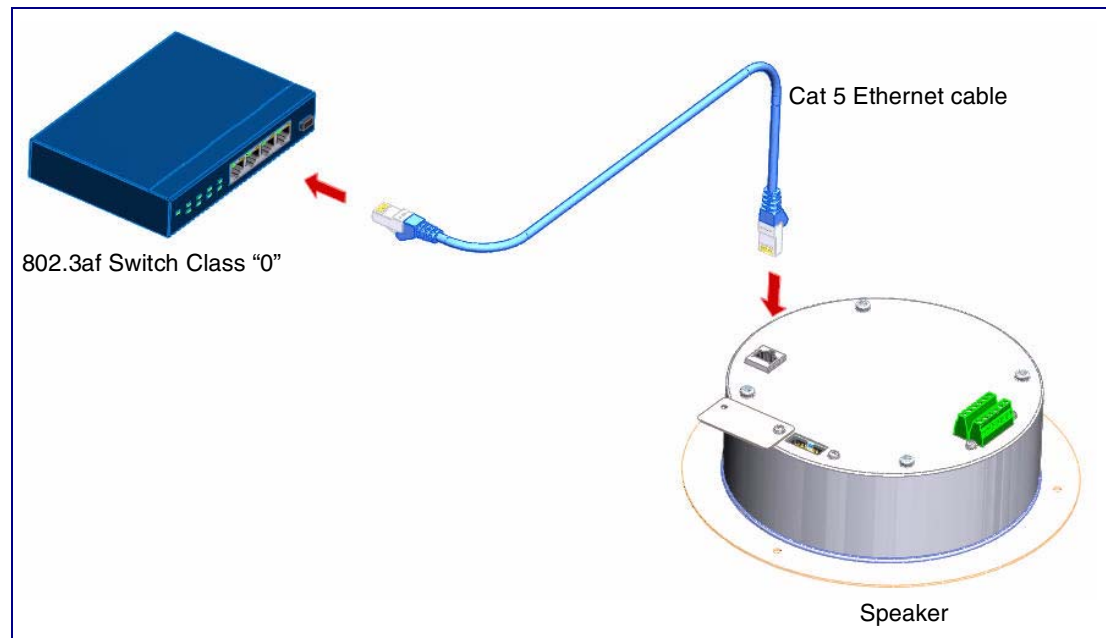
### 2.2.1 Connect Power to the Speaker

Figure 2-1 through Figure 2-3 illustrates how to connect power to the Singlewire-enabled Speaker.

#### 2.2.1.1 Singlewire-enabled Speaker to a 802.3af Compliant PoE Switch

Figure 2-1 illustrates how to connect the Singlewire-enabled Speaker to a 802.3af compliant PoE switch via a Cat 5 Ethernet cable.

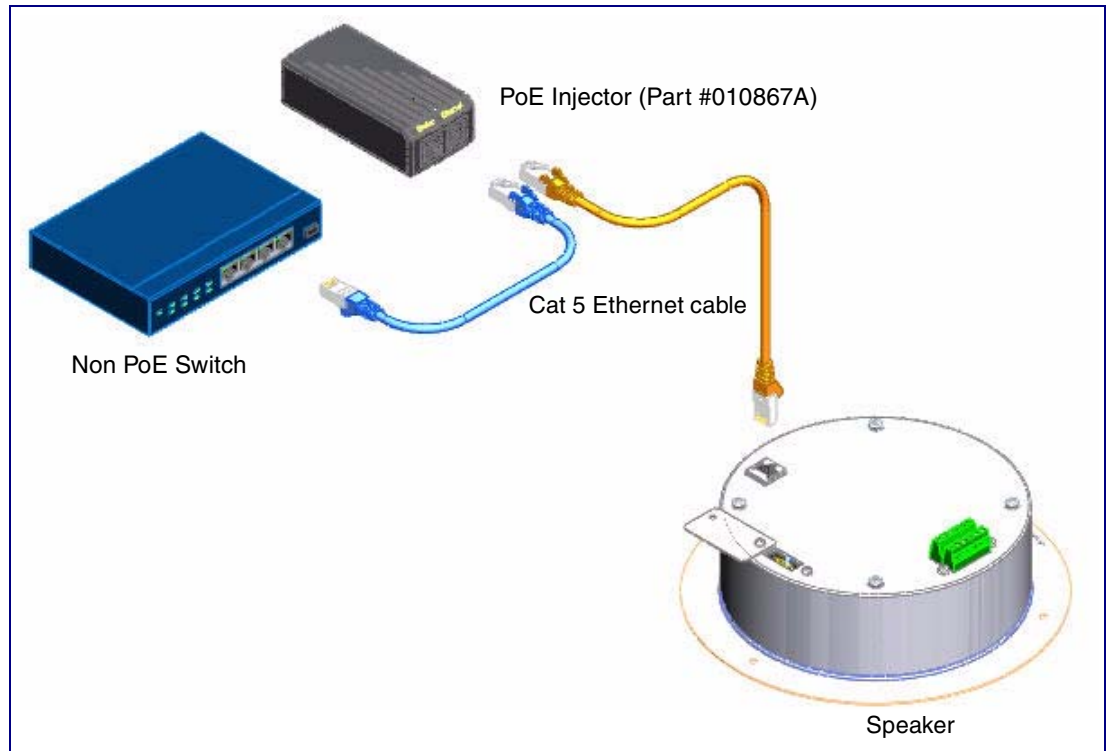
**Figure 2-1. Singlewire-enabled Speaker to a 802.3af Compliant PoE Switch**



### 2.2.1.2 Singlewire-enabled Speaker (with PoE Injector) to a 802.3af Compliant PoE Switch

In [Figure 2-2](#), if a PoE switch is not available, you will need a PoE Injector, part #010867A (ordered separately). A PoE Injector is a power supply solution for those who have a standard Non PoE Switch.

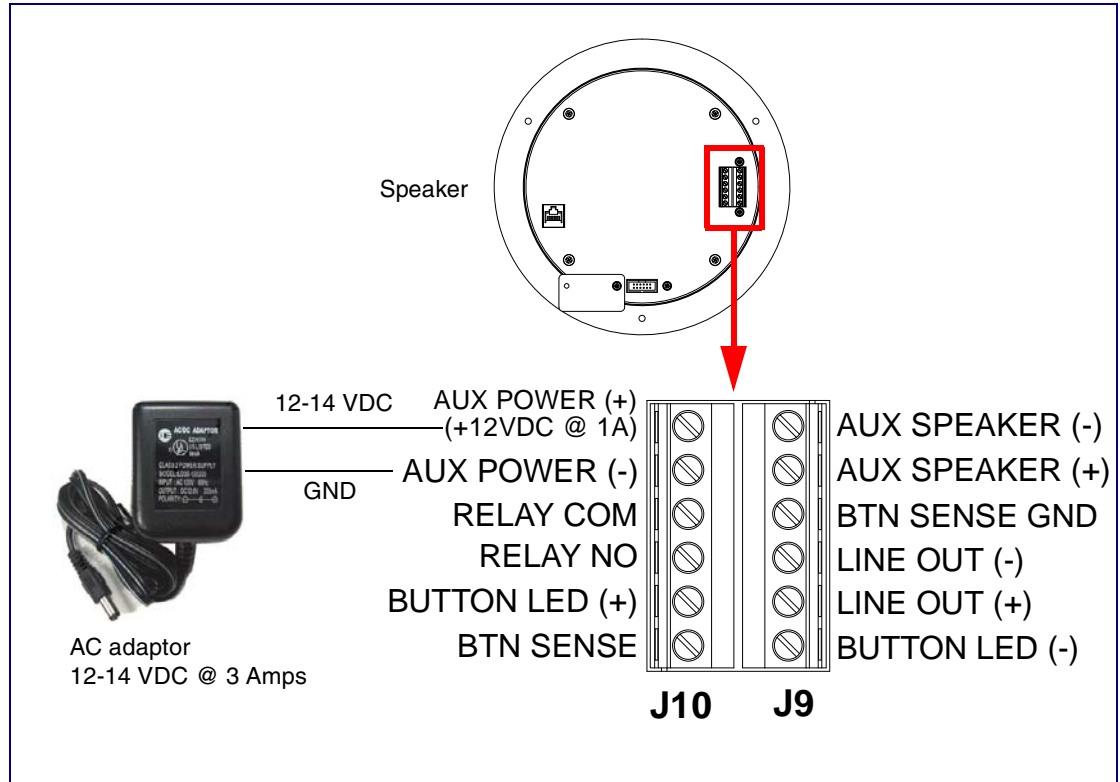
**Figure 2-2. Singlewire-enabled Speaker Speaker (with PoE Injector) to a Non PoE Switch**



### 2.2.1.3 Running the Singlewire-enabled Speaker with Auxiliary Power

In [Figure 2-3](#), the power for the Singlewire-enabled Speaker can either come from an 802.3af Network connection or from an external source.

**Figure 2-3. Running the V2 Speaker with Auxiliary Power**



## 2.2.2 Installation Options

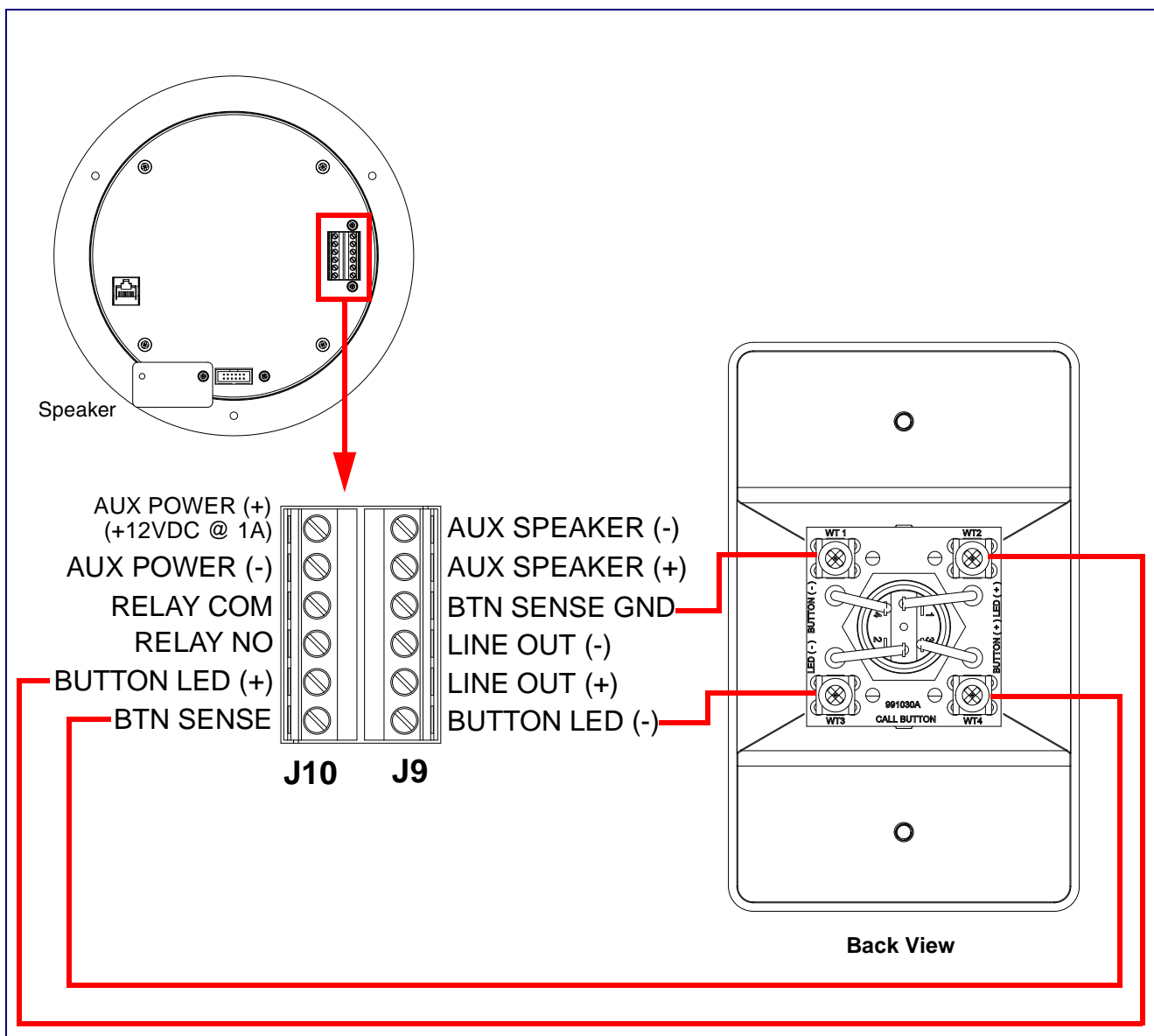
Figure 2-5 through Figure 2-6 illustrates various installation options for the Singlewire-enabled Speaker.

### 2.2.2.1 Singlewire-enabled Speaker with Remote Call Button

In Figure 2-4, when you press the remote call button, the speaker will initiate a SIP call to a pre-determined extension.

When you call the Speaker from a remote phone and auto-answer is not enabled, the LED on the remote button will blink. The call will be answered when the button is pressed.

**Figure 2-4. Singlewire-enabled Speaker with Remote Call Button**

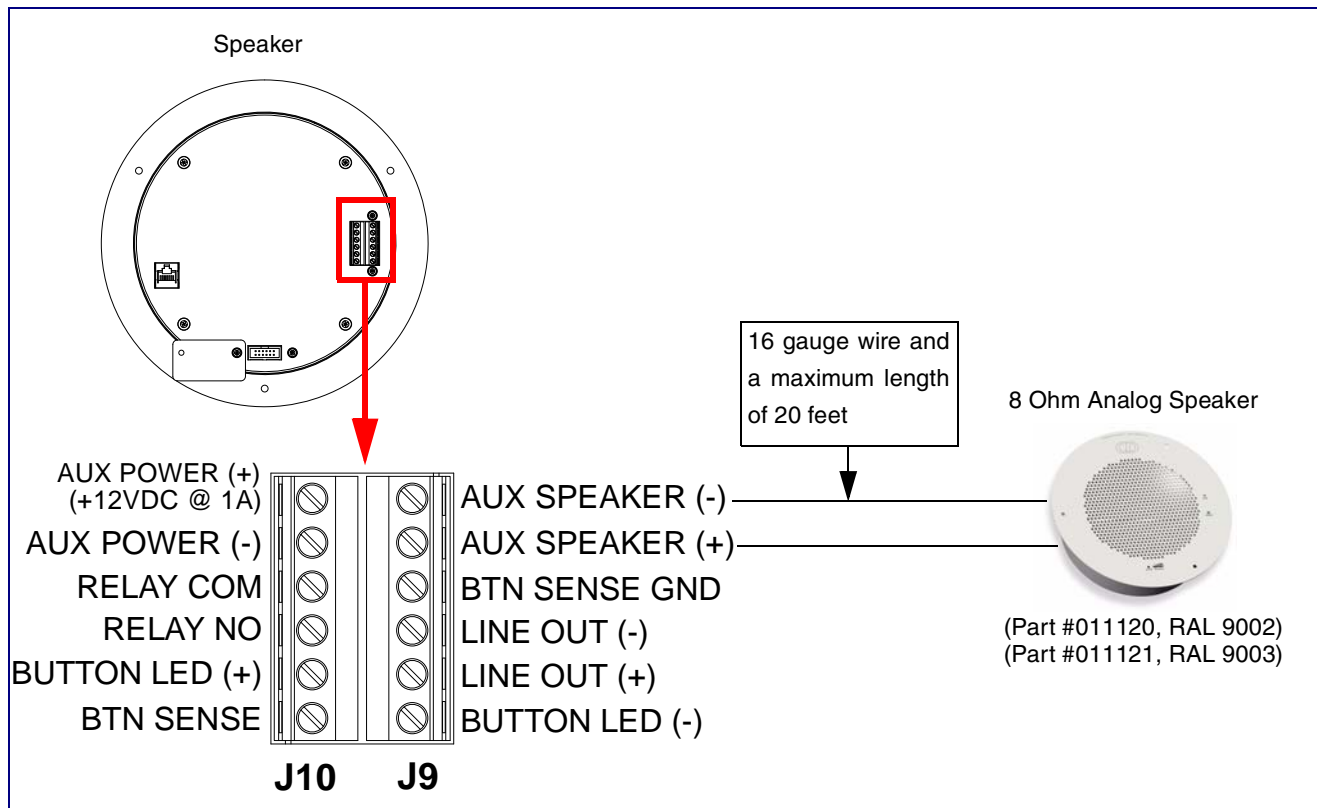


### 2.2.2.2 Singlewire-enabled Speaker with Extra Speaker Connection

In [Figure 2-5](#), the Singlewire-enabled Speaker supports an amplified audio output for a second analog speaker. While the total speaker wattage is the same, by connecting a low cost analog speaker, additional coverage can be realized.

**Speaker Setup** When using the second speaker connection, the digital volume control needs to be set to less than level 8 while making pages. Some adjustment of this value may be required depending on the specific PoE switch.

**Figure 2-5. Singlewire-enabled Speaker with Extra Speaker Connection**

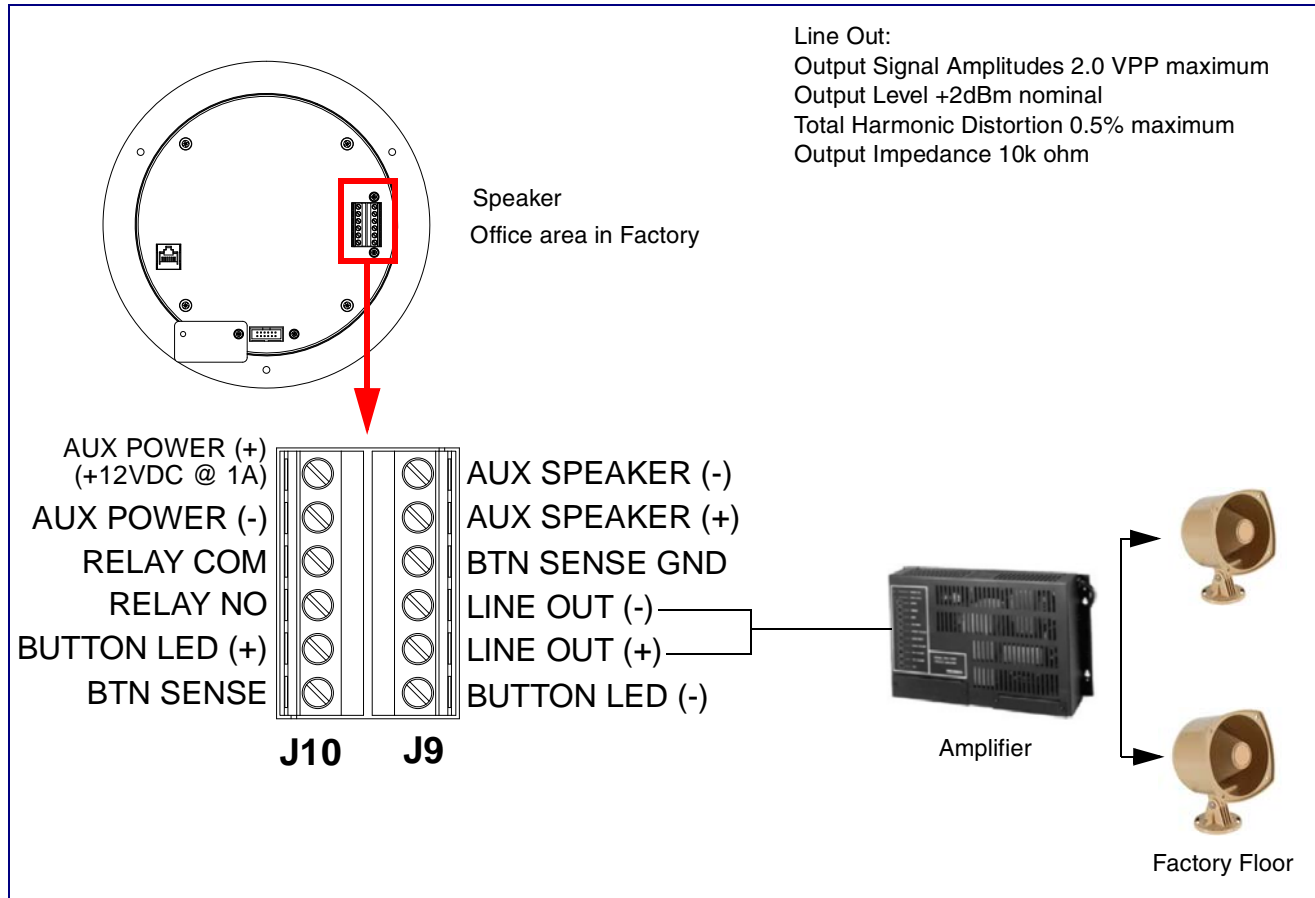




### 2.2.2.3 Singlewire-enabled Speaker with Line Out

In [Figure 2-6](#), for areas that require more speaker volume, the Singlewire-enabled Speaker can be connected directly to an auxiliary amplifier to drive additional horns or speakers. This is done through the line-out connection.

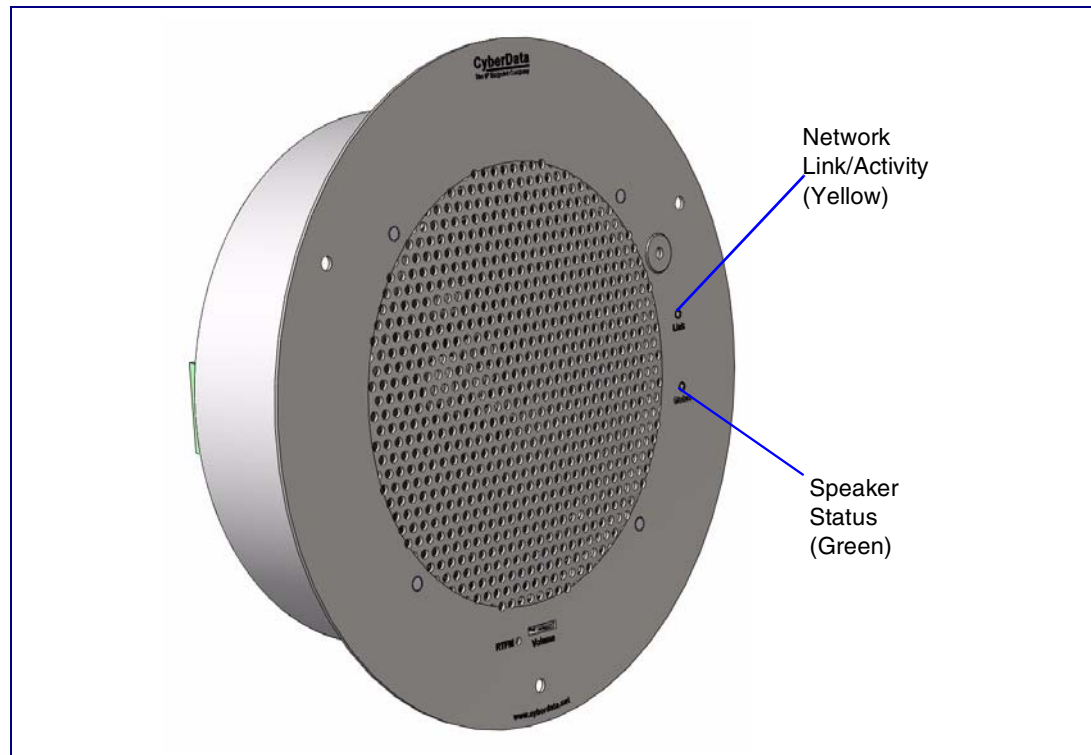
**Figure 2-6. Singlewire-enabled Speaker with Line Out**



## 2.2.3 Confirm that the Speaker is Operational and Linked to the Network

After connecting the speaker to the 802.3af compliant Ethernet hub, the LEDs on the speaker face confirm that the speaker is operational and linked to the network.

**Figure 2-7. Status and Activity LEDs**



### 2.2.3.1 Status LED

After supplying power to the speaker:

1. The green power/status LED and the yellow network LED comes on immediately.

**Note** If the board is set to use DHCP and there is not a DHCP server available on the network, it will try five times with a three second delay between tries and eventually fall back to the programmed static IP address (by default 10.10.10.10). This process will take approximately 80 seconds.

### 2.2.3.2 Link LED

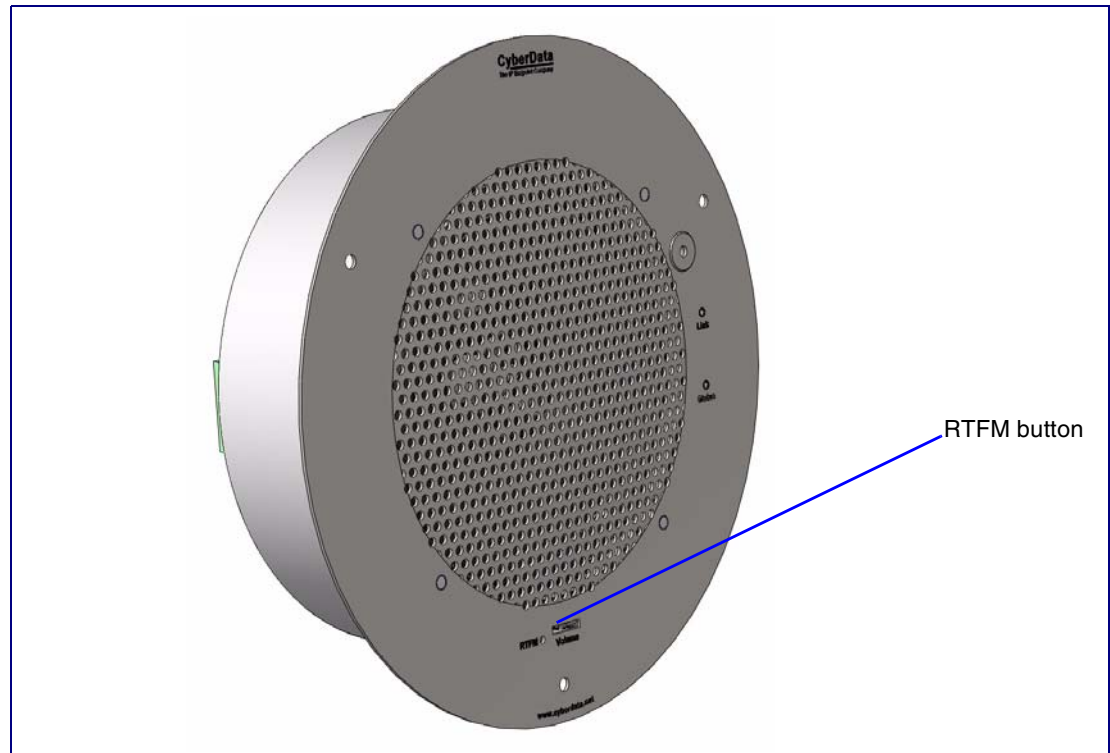
- The **Link** LED is illuminated when the network link to the speaker is established.
- The **Link** LED blinks to indicate network traffic.

## 2.2.4 Confirm the IP Address, Test the Audio, and Check the Volume

### 2.2.4.1 Reset Test Function Management (RTFM) Button

When the speaker is operational and linked to the network, use the Reset Test Function Management (RTFM) button (Figure 2-8) on the speaker face to announce and confirm the speaker's IP Address, test that the audio is working, and check the volume.

**Figure 2-8. RTFM Button**



To announce a speaker's current IP address:

1. Press and release the RTFM button within a five second window.
2. When you hear the IP address announcement, check the speaker volume.

**Note** The speaker will use DHCP to obtain the new IP address (DHCP-assigned address or default to 10.10.10.10 if a DHCP server is not present).

**Note** Pressing and holding the RTFM button for longer than five seconds will restore the speaker to the factory default settings.

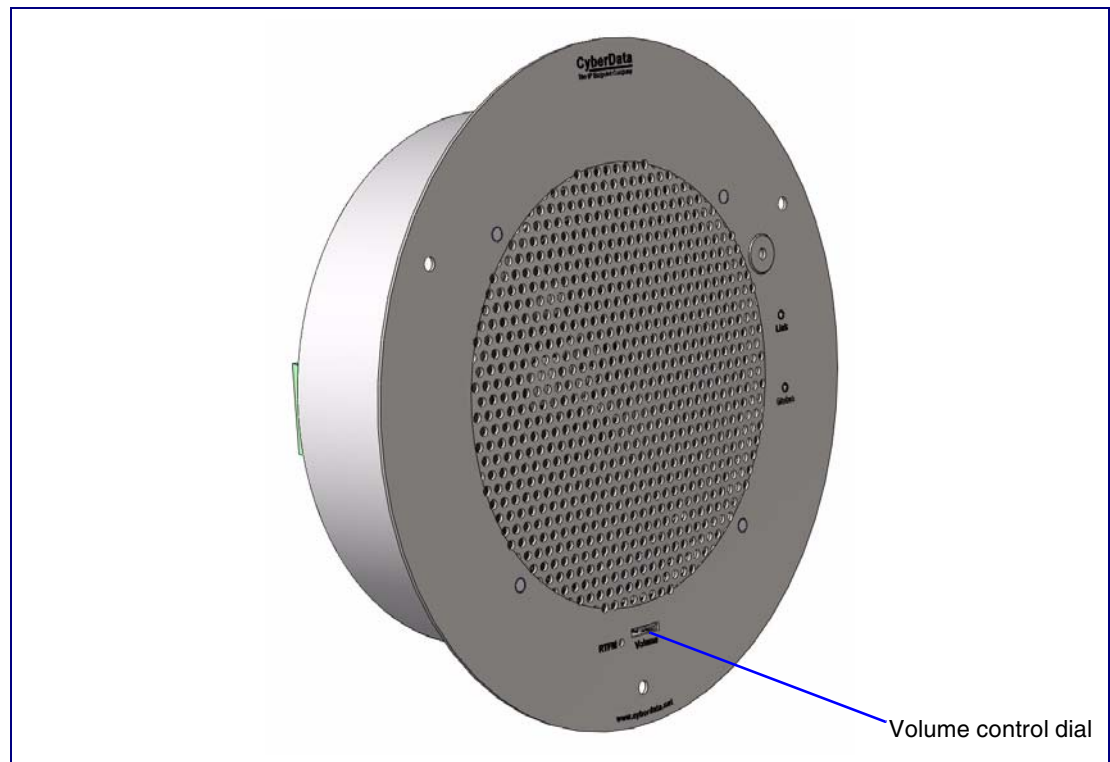
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## 2.2.5 Adjust the Volume

To adjust the speaker volume, turn the **Volume** control dial (Figure 2-9) on the speaker face.

**Note** The Singlewire-enabled Speaker has two volume controls: **Networked-based** (as controlled by the Singlewire protocol from InformaCast) and **External** (volume knob).

**Figure 2-9. Volume Control**

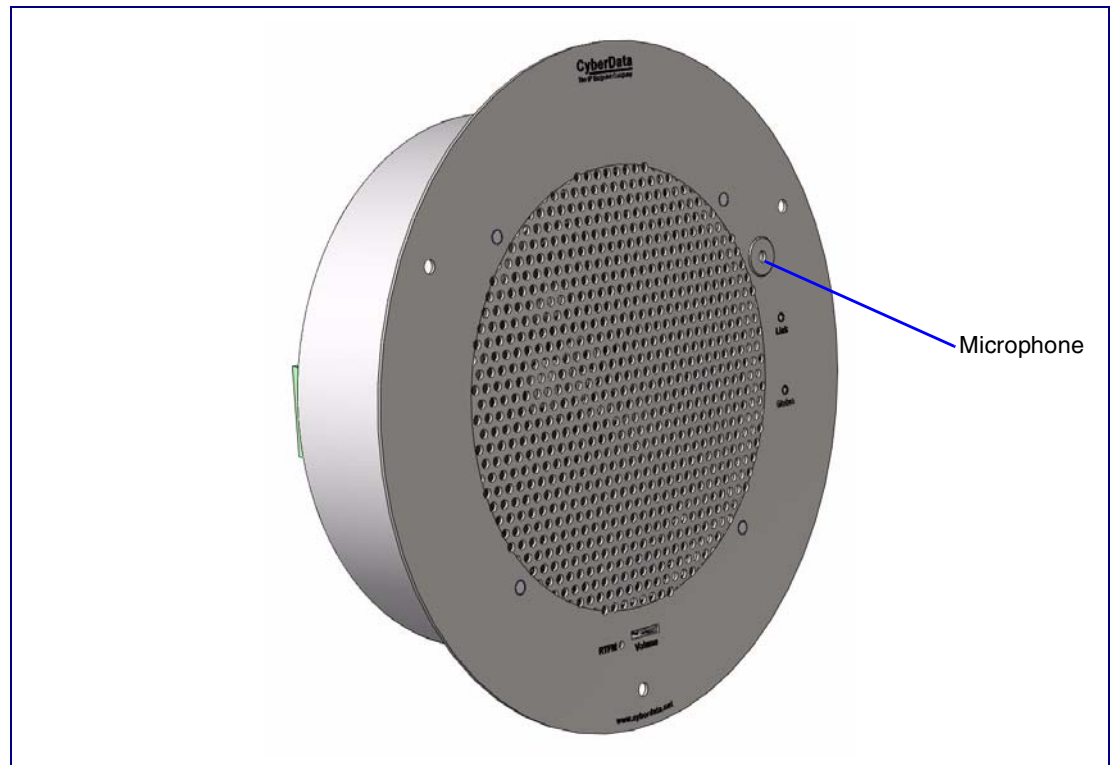


---

## 2.2.6 Using the Microphone

During an active call, the microphone can be used to “talk” to someone at a pre-configured IP phone extension. See [Figure 2-10](#).

**Figure 2-10. Microphone**



To set the factory default settings:

1. Press and hold the **RTFM** button for more than five seconds.
2. The speaker announces that it is restoring the factory default settings.

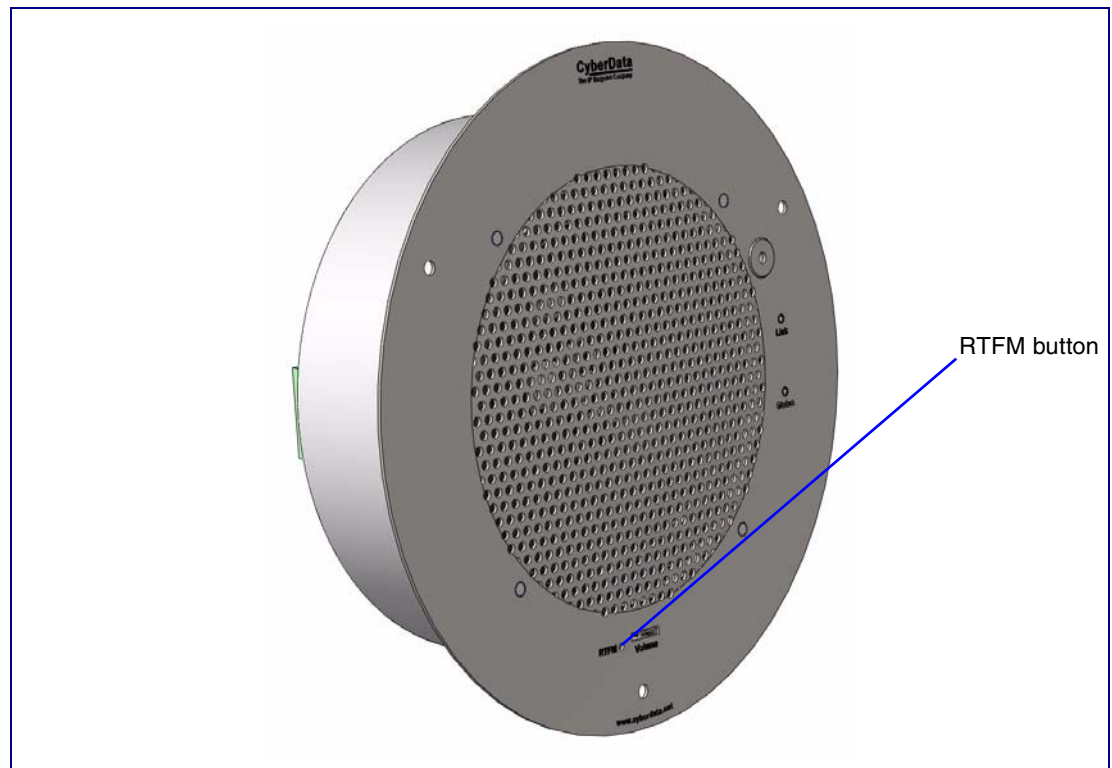
**Note** The speaker will use DHCP to obtain the new IP address (DHCP-assigned address or default to 10.10.10.10 if a DHCP server is not present).

## 2.2.7 How to Set the Factory Default Settings

### 2.2.7.1 RTFM Button

When the speaker is operational and linked to the network, use the Reset Test Function Management (RTFM) button (Figure 2-11) on the speaker face to set the factory default settings.

Figure 2-11. RTFM Button



To set the factory default settings:

1. Press and hold the **RTFM** button for more than five seconds.
2. The speaker announces that it is restoring the factory default settings.

The speaker will use DHCP to obtain the new IP address (DHCP-assigned address or default to 10.10.10.10 if a DHCP server is not present).

## 2.3 Configure the Speaker Parameters

To configure the speaker online, use a standard web browser.

Configuration of the speaker is taken care of by the InformaCast server. If an InformaCast server can not be found, the speaker will return to factory defaults as shown in [Table 2-3](#).

**Table 2-3. Factory Network Default Settings—Default of Network**




Parameter	Factory Default Setting
IP Addressing	DHCP
IP Address <sup>a</sup>	10.10.10.10
Web Access Username	admin
Web Access Password	admin
Subnet Mask <sup>a</sup>	255.0.0.0
Default Gateway <sup>a</sup>	10.0.0.1

a. Default if there is not a DHCP server present.

### 2.3.1 Singlewire-enabled Speaker Web Page Navigation

Table 2-4 shows the navigation buttons that you will see on every Singlewire-enabled Speaker web page.

Table 2-4. V2 Paging Amplifier Web Page Navigation

Web Page Item	Description
	Link to the <b>Home</b> page.
	Link to the <b>Clock Configuration</b> page. <sup>a</sup>
	Link to the <b>Update Firmware</b> page.

a.This page is used only if the CyberData Clock Kit is installed.



## 2.3.2 Log in to the Configuration Home Page

1. Open your browser to the Singlewire-enabled Speaker IP address. This can be found within the InformaCast Server Test Menu.

**Note** If the network does not have access to a DHCP server, the device will default to an IP address of 10.10.10.10.

**Note** Make sure that the PC is on the same IP network as the Singlewire-enabled Speaker.

2. When prompted, use the following default **Web Access Username** and **Web Access Password** to access the **Home Page** (Figure 2-12):

Web Access Username: **admin**

Web Access Password: **admin**

**Figure 2-12. Home Page**

**CyberData Singlewire PTT Speaker**

**Home**  
**Clock Config**  
**Update Firmware**

**Device Settings**

Change Username:   
 Change Password:   
 Re-enter Password:

**Current Settings**

Serial Number: 099002021  
 Mac Address: 00:20:f7:00:f0:c4  
 Firmware Version: v2.0.5  
 IP Addressing: dhcp  
 IP Address: 10.10.0.137  
 Subnet Mask: 255.0.0.0  
 DNS Server 1: 8.8.8.8  
 DNS Server 2:  
 Boot Time: 2012/04/04 14:18:58  
 Current Time: 2012/04/04 14:19:30  
 InformaCast Server: 10.0.1.95  
 Configuration File: InformaCastSpeaker.cfg  
 B'casts Accepted: 0  
 B'casts Rejected: 0  
 B'casts Active: 0  
 RTP Packets Rxd: 0  
 Clock Status: NOT INSTALLED  
 Clock Firmware:

**Miscellaneous Settings**

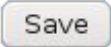

Beep on Initialization: ☐ Yes ☒ No  
 Button Lit When Idle: ☒  
 Blink Button While Recording: ☒  
 Activate Relay While Recording: ☐

\* You need to reboot for changes to take effect

**Save** **Reboot**

- On the **Home Page**, review the setup details described in [Table 2-5](#).

**Table 2-5. Home Page Overview**

Web Page Item	Description
<b>Device Settings</b>	
Change Username	Type in this field to change the username (25 character limit).
Change Password	Type in this field to change the password (19 character limit).
Re-enter Password	Type the password again in this field to confirm the new password (19 character limit).
<b>Current Settings</b>	
Serial Number	Shows the device serial number.
Mac Address	Shows the device Mac address.
Firmware Version	Shows the current firmware version.
IP Addressing	Shows the current IP addressing setting ( <b>DHCP</b> or <b>Static</b> ).
IP Address	Shows the current IP address.
Subnet Mask	Shows the current subnet mask address.
DNS Server 1	Shows the current DNS Server 1 address.
DNS Server 2	Shows the current DNS Server 2 address.
Boot Time	Shows the boot time.
Current Time	Shows the current time.
InformaCast Server	Shows the InformaCast Server IP address.
Configuration File	Shows the configuration file.
B'casts Accepted	Shows the number of B'casts accepted.
B'casts Rejected	Shows the number of B'casts rejected.
B'casts Active	Shows the number of active B'casts.
RTP Packets Rx'd	Shows the number of RTP packets Rx'd.
Clock Status	Shows the current clock status.
Clock Firmware	Shows the current clock firmware version.
Beep on Initialization	When <b>Yes</b> is selected, you will hear a beep when the device initializes.
Button Lit When Idle	When selected, the Remote Call Button LED remains lit when idle.
Blink Button While Recording	When selected, the Remote Call Button LED blinks while a call is in progress.
Activate Relay While Recording	When selected, the relay will activate while a call is in progress.
	Click the <b>Save</b> button to save your configuration settings. <b>Note:</b> You need to reboot for changes to take effect.
	Click on the <b>Reboot</b> button to reboot the system.

## 2.4 Configuring the Clock

1. Click the **Clock Config** button to open the **Clock Configuration** page. See [Figure 2-14](#).



**Figure 2-13. Clock ConfigurationPage**

The screenshot shows the 'CyberData Singlewire PTT Speaker' web interface. On the left is a navigation menu with three buttons: 'Home', 'Clock Config' (which is highlighted), and 'Update Firmware'. The main content area is titled 'Clock Configuration'. It displays 'Clock Status: NOT INSTALLED' and 'Clock Firmware:'. Below this is a 'Clock Settings' section with the following options: 'Clock Brightness (0-14):' with a text input field; 'Use Ambient Light Sensor:' with a checked checkbox; 'Clock Colon Type:' with three radio buttons labeled 'Off', 'On' (selected), and 'Blink'; and 'Clock Time Format:' with two radio buttons labeled '12 Hour' (selected) and '24 Hour'. Below the settings is a 'Current Time' section with a text input field labeled 'Current Time in 24 hour format (HHMMSS):'. At the bottom, a note states '\* You need to reboot for changes to take effect', followed by 'Save' and 'Reboot' buttons.

**Note** The **Clock Configuration** page is always visible. If a clock is not installed, the **Clock Status** will indicate **NOT INSTALLED**. Otherwise it shows **INSTALLED**.

Table 2-6 shows the web page items on the NTP Server and Clock Configuration page.

**Table 2-6. NTP Server and Clock Configuration**

Web Page Item	Description
Clock Status	Displays the current clock status.
Clock Firmware	Displays the current clock firmware version.
<b>Clock Settings</b>	
Clock Brightness (0-14)	Allows you to select the clock brightness level (0-14) (2 character limit)
Use Ambient Light Sensor	Enables or disables the ambient light sensor.
Clock Color Type	Allows you to select the clock colon type ( <b>Off</b> , <b>On</b> , or <b>Blink</b> )
Clock Time Format	Allows you to select the clock format (12 or 24 hour)
<b>Current Time</b>	
Current Time in 24 hour format ( <b>HHMMSS</b> )	Allows you to input the current time in the 24 hour format. (6 character limit)
	Click the <b>Save</b> button to save your configuration settings. <b>Note:</b> You need to reboot for changes to take effect.
	Click on the <b>Reboot</b> button to reboot the system.

---

## 2.5 Upgrade the Firmware and Reboot the Singlewire-enabled Speaker

### 2.5.0.1 Upgrade the Firmware

To upload the firmware from your computer:

1. Retrieve the latest Singlewire-enabled Speaker firmware from the Singlewire-enabled Speaker **Downloads** page at the following website:  
<http://www.cyberdata.net/products/voip/digitalanalog/singlewirespeakerptt/downloads.html>
2. Unzip the Singlewire-enabled Speaker version file. This file may contain the following items:
  - Firmware file
  - Release notes
3. Log in to the Singlewire-enabled Speaker home page as instructed in [Section 2.3.2, "Log in to the Configuration Home Page"](#).

4. Click the **Update Firmware** button to open the **Upgrade Firmware** page. See [Figure 2-14](#).

**Figure 2-14. Firmware Upgrade Page**

The screenshot shows a web interface for the 'CyberData Singlewire PTT Speaker'. The title bar is dark blue with the text 'CyberData Singlewire PTT Speaker' in white. Below the title bar, there is a light blue background. On the left side, there is a vertical menu with three buttons: 'Home', 'Clock Config', and 'Update Firmware'. The 'Update Firmware' button is highlighted. To the right of the menu, the page title 'Upgrade Firmware' is displayed. Below the title, there is a 'File Upload' section. It contains the text 'Firmware Version: v2.0.5' and 'Please specify a file:'. Below this text is a text input field and a 'Browse...' button. At the bottom of the page, there is a message 'System will automatically reboot after upgrading firmware' and two buttons: 'Submit' and 'Reboot'.

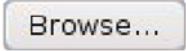

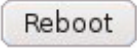
5. Click **Browse**, and then navigate to the location of the Singlewire-enabled Speaker firmware file.
6. Click **Submit**.

**Note** This starts the upload process. Once the Singlewire-enabled Speaker has uploaded the file, the **Uploading Firmware** countdown page appears, indicating that the firmware is being written to flash. The Singlewire-enabled Speaker will automatically reboot when the upload is complete. When the countdown finishes, the **Upgrade Firmware** page will refresh. The uploaded firmware filename should be displayed in the system configuration (indicating successful upload and reboot).

**Note** The way that the integrity of the configuration file is validated has changed. There is no problem with updating the firmware but if you downgrade (or downgrade, make some changes, and then upgrade again) the device may think that the configuration is corrupt and restore defaults.

Table 2-7 shows the web page items on the **Upgrade Firmware** page.

**Table 2-7. Firmware Upgrade Settings**

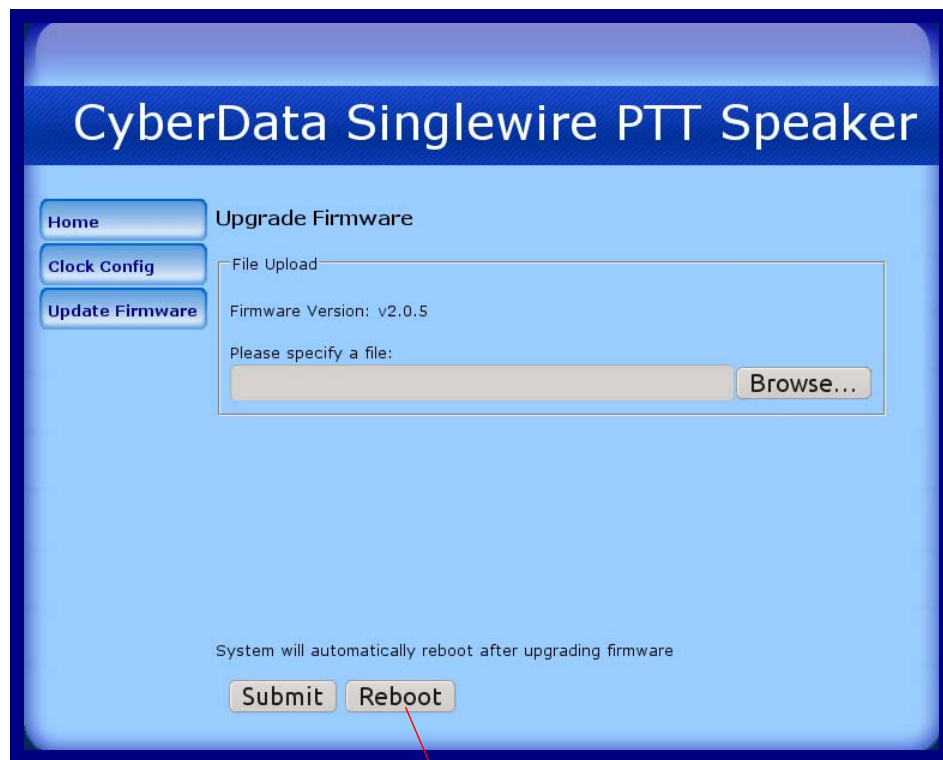
Web Page Item	Description
<b>File Upload</b>	
Firmware Version	Shows the current firmware version.
Please specify a file	Refer to the <b>Browse</b> button description.
	Use the <b>Browse</b> button to navigate to the location of the firmware file that you want to submit.
	Click on the <b>Submit</b> button to automatically submit the selected firmware and reboot the system.
	Click on the <b>Reboot</b> button to reboot the system.

## 2.5.1 Reboot the Singlewire-enabled Speaker

To reboot a Singlewire-enabled Speaker, log in to the web page as instructed in [Section 2.3.2, "Log in to the Configuration Home Page"](#).

1. Click **Update Firmware** to open the **Upgrade Firmware** page ([Figure 2-15](#)).

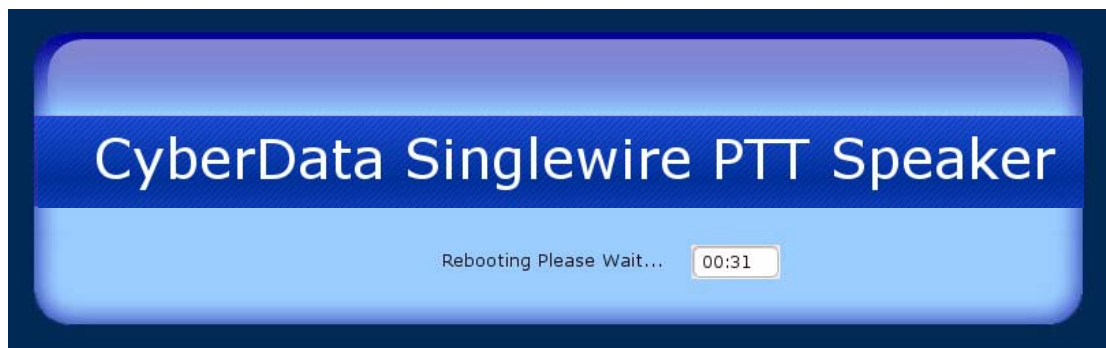
**Figure 2-15. Reboot System Section**



Reboot

2. Click **Reboot**. A normal restart will occur and you will see the following Reboot page.

**Figure 2-16. Reboot Page**





## 2.6 Identifying and Testing a Ceiling Speaker when Using InformaCast 8.1 or Later

This section describes the basic process for identifying and testing the CyberData IP Ceiling speaker when using Singlewire's InformaCast software version 4.0 or later.

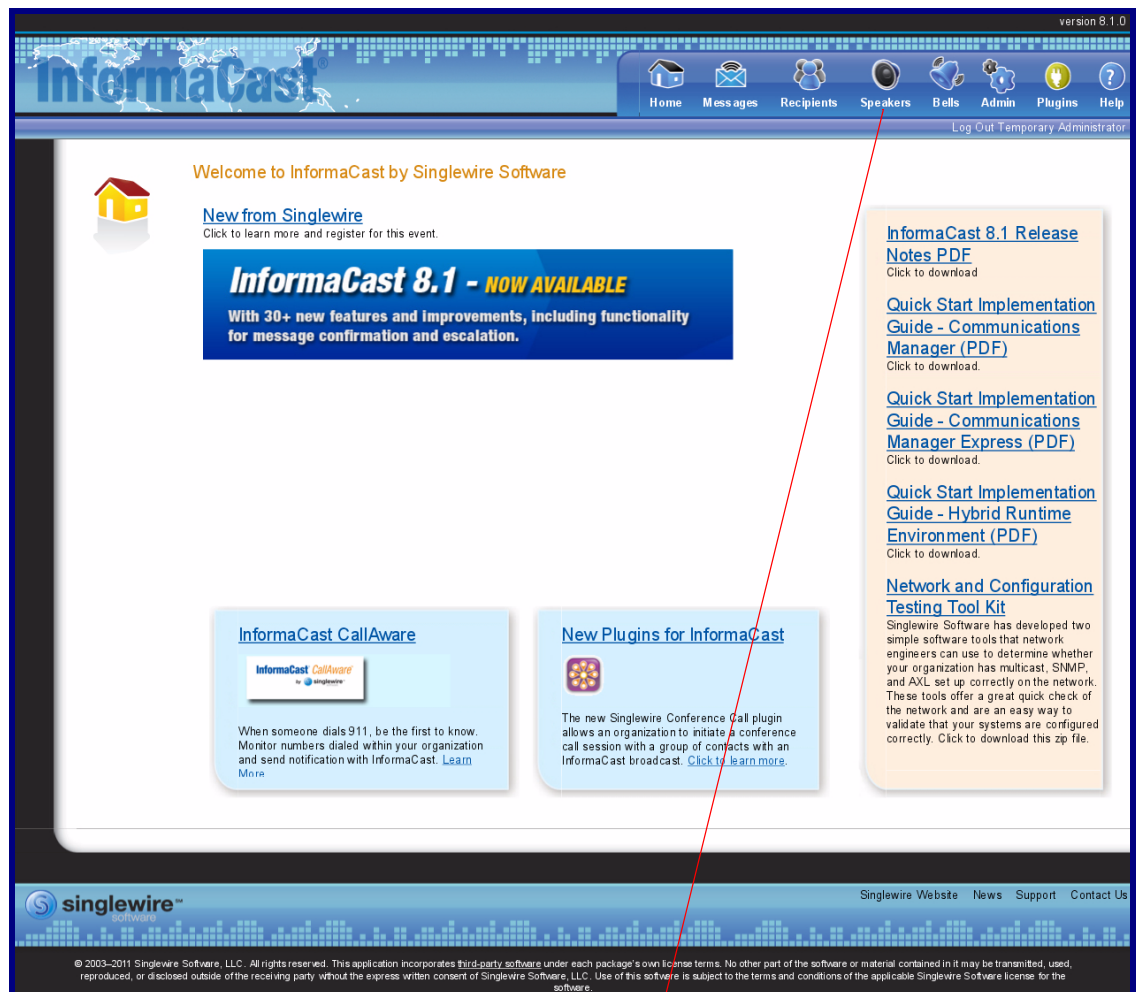
**Note** If you have questions or need help, please consult your InformaCast documentation and or contact the CyberData support team.

**Note** CyberData's support is limited to IP endpoint functionality when used with an InformaCast system.

To add the Singlewire-enabled Speaker to the InformaCast server:

1. Click **Edit IP Speakers** on the **Main Screen** of the **Singlewire Informacast Server Web Interface**.

**Figure 2-17. Main Screen of the Singlewire InformaCast Server Web Interface**



Edit IP Speakers

- On the **IP Speaker Configuration** page, InformaCast will indicate that it has detected new speakers. Click **View**.

Figure 2-18. IP Speaker Configuration Page

version 8.1.0

InformaCast

Home Messages Recipients Speakers Bells Admin Plugins Help

Log Out Temporary Administrator

Speakers | [Edit IP Speakers](#)

InformaCast has detected new IP Speakers on the network. [View](#)

Filter: < no filter > [Does](#) [Apply](#)

6 IP Speakers, unfiltered (0 selected):

[CHOOSE ALL](#) [CLEAR ALL](#)

[PREVIOUS](#) [Page 1 of 1](#) [NEXT](#) [Jump to page:](#) [GO](#) [Show 50 results per page](#) [ADD](#)

Name	Description and Status	Dial Code	Vol	MAC address	Action
<input type="checkbox"/> Christina's Clock	CyberData Clock/Speaker kit Status: Not registered		10	0020f7009b7b	<a href="#">EDIT</a> <a href="#">DELETE</a>
<input type="checkbox"/> ClockFixer	ClockFixer Status: Not registered	8675309	10	0020f7004597	<a href="#">EDIT</a> <a href="#">DELETE</a>
<input type="checkbox"/> Desktop Notify System	Status: Not registered		10	001372c9f60d	<a href="#">EDIT</a> <a href="#">DELETE</a>
<input type="checkbox"/> jkyg	jhg Status: Not registered	41354	10	0020f700d8f6	<a href="#">EDIT</a> <a href="#">DELETE</a>
<input type="checkbox"/> rma test	testA Status: Not registered		10	0020f700f0ba	<a href="#">EDIT</a> <a href="#">DELETE</a>
<input type="checkbox"/> Talkback Test	Status: Registration expired, last seen at Wed Apr 04 15:50:12 GMT-07:00 2012 (can record) (can listen) (has GPIO) (can play high quality audio), IP=10.10.0.137	155	5	0020f700f0c4	<a href="#">EDIT</a> <a href="#">DELETE</a>

[PREVIOUS](#) [Page 1 of 1](#) [NEXT](#) [Jump to page:](#) [GO](#) [Show 50 results per page](#)

**Reboot IP Speakers**

[SELECTED SPEAKERS](#) Only selected speakers will be rebooted. The number of selected speakers is shown above.

[ALL SPEAKERS](#) This will attempt to reboot all speakers that have registered with InformaCast, whether they are listed on this page or are "new" speakers.

**Adjust Volume of IP Speakers**

Volume Adjustment: < select one >

[SELECTED SPEAKERS](#) Only selected speakers will have their volume adjusted. The number of selected speakers is shown above.

[ALL SPEAKERS](#) This will attempt to adjust the volume of all configured speakers.

**Delete Non-registered IP Speakers**

[DELETE NON-REGISTERED](#) This will remove 6 speaker(s) whose status in InformaCast is Not registered or Registration expired.

**Upload IP Speaker Configurations**

If you have many IP Speakers to define, they can be imported from a Comma Separated Values file, exported from a spreadsheet. Please refer to the InformaCast documentation regarding the format of the CSV file, or visit the [Help Page](#) (under "Tools") to find an Excel spreadsheet you can start with.

Upload CSV File: [Browse...](#) [IMPORT SPEAKERS](#)

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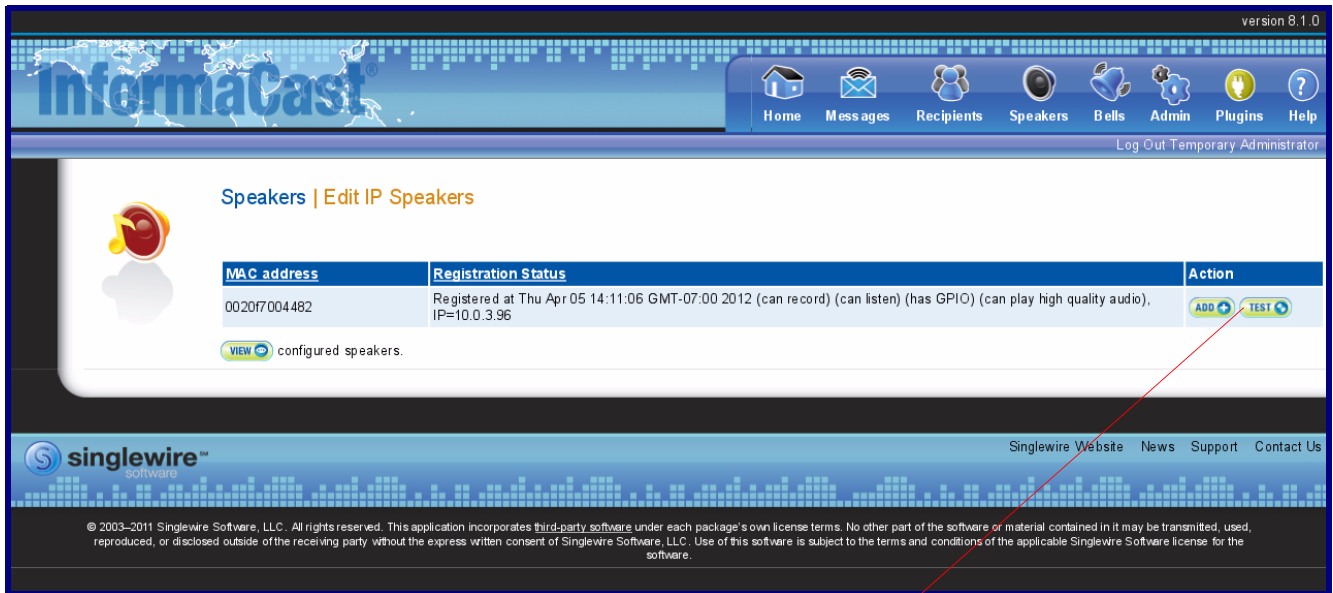
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InformaCast has detected new speakers.

View

3. The **IP Speaker Configuration** page will show four newly detected speakers. Click **Test**.

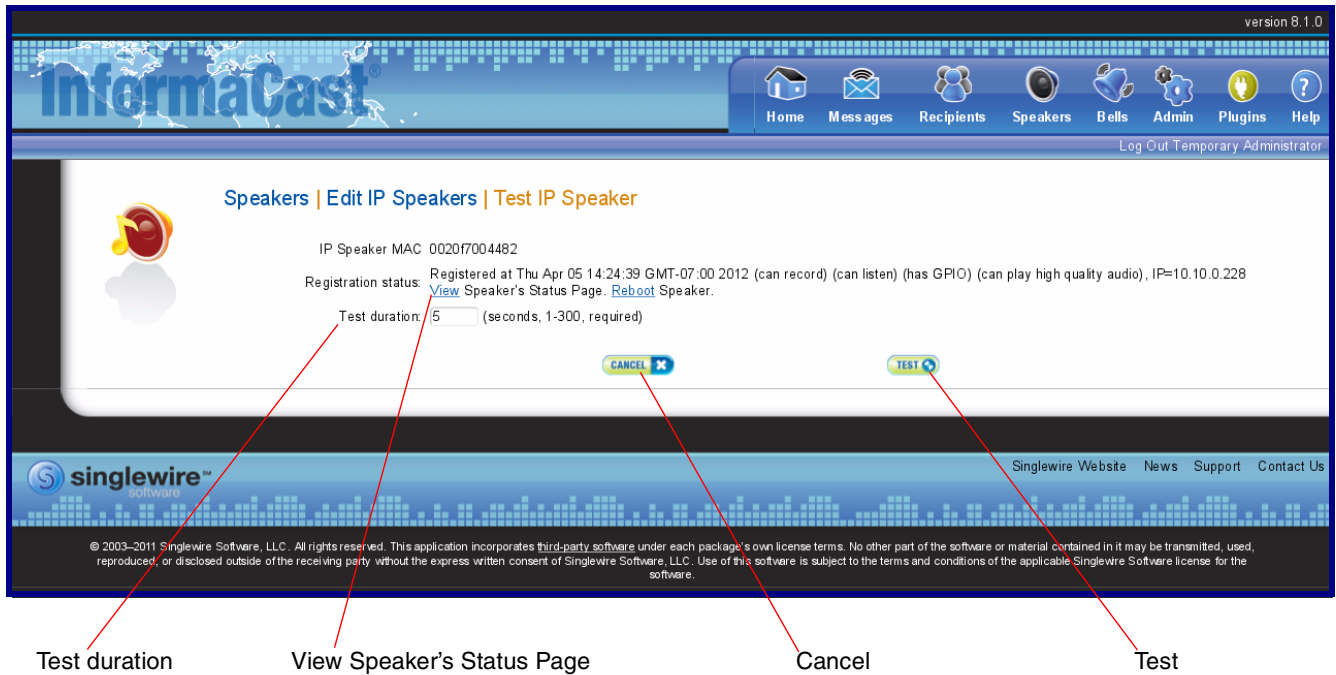
Figure 2-19. IP Speaker Configuration Page



Test

4. On the **Test IP Speaker** page, Enter a number into the **Test duration** field.
5. Click **Test**.
6. You will hear a tone from the speaker being testing.
7. After the test, click **Cancel** to return to the **IP Configuration** page.

**Figure 2-20. Test IP Speaker Page**



- On the **IP Speaker Configuration** page, Click **Add** to add a speaker to the InformaCast server.

**Figure 2-21. IP Configuration Page**

The screenshot shows the InformaCast web interface. At the top, there's a navigation bar with icons for Home, Messages, Recipients, Speakers, Bells, Admin, Plugins, and Help. Below this is a header with the InformaCast logo and a version 8.1.0 indicator. The main content area is titled 'Speakers | Edit IP Speakers'. A message states 'InformaCast has detected new IP Speakers on the network.' with a 'VIEW' button. Below this is a filter section with a dropdown set to 'no filter' and an 'Apply' button. A section titled '6 IP Speakers, unfiltered (0 selected):' contains buttons for 'CHOOSE ALL', 'CLEAR ALL', and pagination controls. A table lists the speakers with columns for Name, Description and Status, Dial Code, Vol, MAC address, and Action. The 'Add' button is highlighted with a red arrow pointing to it from the bottom of the page.

Name	Description and Status	Dial Code	Vol	MAC address	Action
Christina's Clock	CyberData Clock/Speaker kit Status: Not registered		10	0020f7009b7b	EDIT DELETE
ClockFixer	ClockFixer Status: Not registered	8675309	10	0020f7004597	EDIT DELETE
Desktop Notify System	Status: Not registered		10	00137229f60d	EDIT DELETE
jkyg	jhg Status: Not registered	41354	10	0020f700d8f6	EDIT DELETE
rma test	testA Status: Not registered		10	0020f700f0ba	EDIT DELETE
Talkback Test	Status: Registration expired, last seen at Wed Apr 04 15:50:12 GMT-07:00 2012 (can record) (can listen) (has GPIO) (can play high quality audio), IP=10.10.0.137	155	5	0020f700f0c4	EDIT DELETE

**Reboot IP Speakers**  
 SELECTED SPEAKERS Only selected speakers will be rebooted. The number of selected speakers is shown above.  
 ALL SPEAKERS This will attempt to reboot all speakers that have registered with InformaCast, whether they are listed on this page or are "new" speakers.

**Adjust Volume of IP Speakers**  
 Volume Adjustment: < select one >  
 SELECTED SPEAKERS Only selected speakers will have their volume adjusted. The number of selected speakers is shown above.  
 ALL SPEAKERS This will attempt to adjust the volume of all configured speakers.

**Delete Non-registered IP Speakers**  
 DELETE NON-REGISTERED This will remove 6 speaker(s) whose status in InformaCast is Not registered or Registration expired.

**Upload IP Speaker Configurations**  
 If you have many IP Speakers to define, they can be imported from a Comma Separated Values file, exported from a spreadsheet. Please refer to the InformaCast documentation regarding the format of the CSV file, or visit the Help Page (under "Tools") to find an Excel spreadsheet you can start with.  
 Upload CSV File: Browse... IMPORT SPEAKERS

Add

9. On the **Add IP Speaker** page, Fill out appropriate fields and click **Add**.

**Figure 2-22. Add IP Speaker Page**

version 8.1.0

InformaCast

Home Messages Recipients Speakers Bells Admin Plugins Help

Log Out Temporary Administrator

Speakers | Edit IP Speakers | Add IP Speaker

IP Speaker Name: TestSpeaker001 (required)

Speaker Description: Test Speaker

Dial Code: 1234 (numeric shortcut for optional phone interface)

MAC Address: 0020f7004482 (required, 12 hex digits)

Volume: 10

Dial Number for Intercom: 123 (for use with speaker call button)

CANCEL ADD

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Add



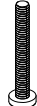
Your speaker is now registered to the InformaCast server. You now can configure this device as part of the InformaCast system setup as required.

# Appendix A: Mounting the Speaker


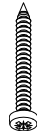
## A.1 Mount the Speaker

Before you mount the speaker, make sure that you have received all the parts for each speaker. Refer to [Table A-1](#) and [Table A-2](#).

**Table A-1. Drop Ceiling Mounting Components (Part of the Accessory Kit)**

Quantity	Part Name	Illustration
3	#8 Nylon Thumb Nuts	
3	#8 Fender Washers	
3	8-32 x 1 1/4" Mounting Screws	

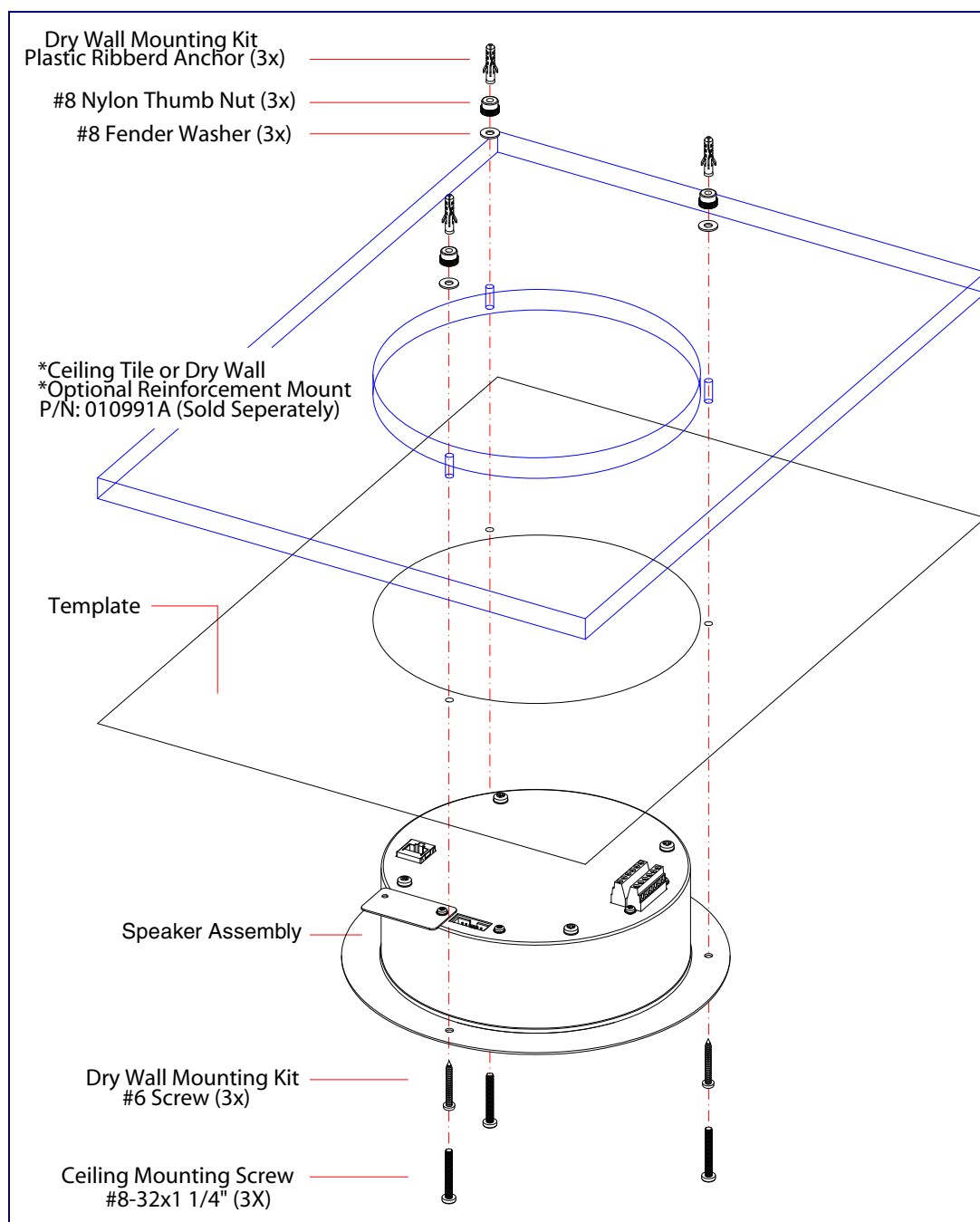
**Table A-2. Drywall Mounting Components (Part of the Accessory Kit)**

Quantity	Part Name	Illustration
3	Plastic Ribbed Anchors	
3	#8 Sheet Metal Screws	

To mount the speaker:

1. Use the **TEMPLATE** to cut the speaker hole and prepare holes for the screws (**Figure A-1**). This template is located on the back page of the *Installation Quick Reference Guide* that is delivered with each speaker.

**Figure A-1. VoIP Speaker Assembly**





2. Plug the Ethernet cable into the Speaker Assembly. [Section 2.2.3, "Confirm that the Speaker is Operational and Linked to the Network"](#) explains how the **Link** and **Status** LEDs work.
3. At this point:
  - For *drop ceiling mounting*, position the **VoIP SPEAKER ASSEMBLY** in the ceiling so that its screw holes align with those you prepared.
  - For *drywall mounting*, place the three **PLASTIC RIBBED ANCHORS** in the holes you prepared, and position the **VoIP SPEAKER ASSEMBLY** over them, aligning the screw holes in the assembly with the anchors.
4. To fasten the speaker:
  - For *drop ceiling mounting*, use the three **8-32 x 1 1/4" MOUNTING SCREWS, #8 NYLON THUMB NUTS**, and **#8 FENDER WASHERS** to secure the speaker.

**Note** For weak ceiling tile, CyberData offers a reinforcing mount (CyberData part number 010991A).

- For *drywall mounting*, use the three **#8 SHEET METAL SCREWS** to secure the speaker.

# Appendix B: Troubleshooting/Technical Support

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## B.1 Frequently Asked Questions (FAQ)

To see a list of frequently asked questions, go to the following URL:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewirespeakerptt/faqs.html>

---

## B.2 Documentation

The documentation for this product is released in an English language version only. You can download PDF copies of CyberData product documentation by going to the following URL:

<http://www.cyberdata.net/products/voip/digitalanalog/singlewirespeakerptt/docs.html>

## B.3 Contact Information

Contact	<p>CyberData Corporation  3 Justin Court  Monterey, CA 93940 USA  <a href="http://www.CyberData.net">www.CyberData.net</a>  Phone: 800-CYBERDATA (800-292-3732)  Fax: 831-373-4193</p>
Sales	<p>Sales 831-373-2601 Extension 334</p>
Technical Support	<p>The fastest way to get technical support for your VoIP product is to submit a VoIP Technical Support form at the following website:</p> <p><a href="http://www.cyberdata.net/support/contactsupportvoip.html">http://www.cyberdata.net/support/contactsupportvoip.html</a></p> <p>Phone: (831) 373-2601, Ext. 333  Email: support@cyberdata.net</p>
Returned Materials Authorization	<p>To return the product, contact the Returned Materials Authorization (RMA) department:</p> <p>Phone: 831-373-2601, Extension 136  Email: RMA@CyberData.net</p> <p>When returning a product to CyberData, an approved CyberData RMA number must be printed on the outside of the original shipping package. No product will be accepted for return without an approved RMA number. Send the product, in its original package, to the following address:</p> <p>CyberData Corporation  3 Justin Court  Monterey, CA 93940  Attention: RMA "your RMA number"</p>
RMA Status Form	<p>If you need to inquire about the repair status of your product(s), please use the CyberData RMA Status form at the following web address:</p> <p><a href="http://www.cyberdata.net/support/rmastatus.html">http://www.cyberdata.net/support/rmastatus.html</a></p>

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## B.4 Warranty

CyberData warrants its product against defects in material or workmanship for a period of two years from the date of purchase. Should the product fail within the warranty period, CyberData will repair or replace the product free of charge. This warranty includes all parts and labor.

Should the product fail out-of-warranty, a flat rate repair charge of one half of the purchase price of the product will be assessed. Repairs that are in warranty but are damaged by improper modifications or abuse, will be charged at the out-of-warranty rate. Products shipped to CyberData, both in and out-of-warranty, are shipped at the expense of the customer. Shipping charges for repaired products shipped back to the customer by CyberData, will be paid by CyberData.

CyberData shall not under any circumstances be liable to any person for any special, incidental, indirect or consequential damages, including without limitation, damages resulting from use or malfunction of the products, loss of profits or revenues or costs of replacement goods, even if CyberData is informed in advance of the possibility of such damages.

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### B.4.1 Warranty & RMA Returns within the United States

If service is required, you must contact CyberData Technical Support prior to returning any products to CyberData. Our Technical Support staff will determine if your product should be returned to us for further inspection. If Technical Support determines that your product needs to be returned to CyberData, an RMA number will be issued to you at this point.

Your issued RMA number must be printed on the outside of the shipping box. No product will be accepted for return without an approved RMA number. The product in its original package should be sent to the following address:

CyberData Corporation  
3 Justin Court.  
Monterey, CA 93940  
Attn: RMA "xxxxxx"

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### B.4.2 Warranty & RMA Returns Outside of the United States

If you purchased your equipment through an authorized international distributor or reseller, please contact them directly for product repairs.

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### B.4.3 Spare in the Air Policy

CyberData now offers a *Spare in the Air* no wait policy for warranty returns within the United States and Canada. More information about the *Spare in the Air* policy is available at the following web address:

<http://www.cyberdata.net/support/warranty/spareintheair.html>

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## B.4.4 Return and Restocking Policy

For our authorized distributors and resellers, please refer to your CyberData Service Agreement for information on our return guidelines and procedures.

For End Users, please contact the company that you purchased your equipment from for their return policy.

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## B.4.5 Warranty and RMA Returns Page

The most recent warranty and RMA information is available at the CyberData Warranty and RMA Returns Page at the following web address:

<http://www.cyberdata.net/support/warranty/index.html>

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